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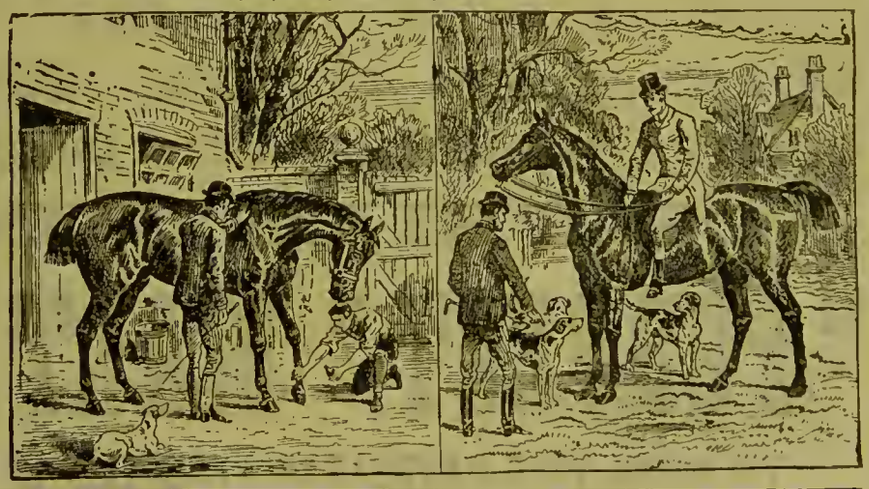

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J. A. JORDAN, 44 Low Hill, Liverpool, Sept. 4th, 1888.

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The Sale of these Preparations is increasing rapidly in all parts of the world, to a very great extent through persons recommending them to others. No tricky advertisements issued, nor are Press Notices accepted, offered to secure an order for advertising.

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MANUFACTURED BY

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WHICH ARE NOW

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Our "PERFECT" MALT EXTRACT is so prepared that it contains more Diastase—and is therefore more active—than any other Extract, hence the title, "PERFECT" MALT EXTRACT.

As no unsupported statement is conclusive evidence of a fact, we give with every bottle of our "PERFECT" MALT EXTRACT a practical yet simple method of testing its value.

Please Note

THAT we now make a distinct series of Concentrated Liquors for the preparation of Tinctures. This enables us to very materially reduce the prices of the Liquors for Infusions, &c., so that the latter can be produced at even Less Cost from our Liquors than from the old-fashioned *one-to-seven* Infusions, which, moreover, will not bear comparison with the Liquors in strength, brilliancy, or aroma.

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Fees, from **Half-a-Guinea** to **Three Guineas** a week, for Nursing, Board, Lodging, and Services of a Resident Medical Officer. The Surgical cases are under the charge of a Hospital Surgeon.

Patients may avail themselves of the services of their own Medical Attendants.

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"Concilio et Labore."

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The time-tables of the College include distinct courses of classes, each complete in itself, on Chemistry, Physics, Botany, Materia Medica, Pharmacy, Latin, and Dispensing.

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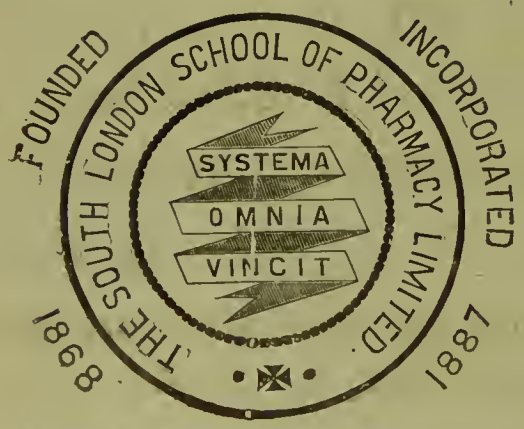
W. SPENCER TURNER,
DIRECTOR.



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The fees at this School are absolutely inclusive, and there are *no extras of any kind.* The Directors spare no expense in rendering the education thoroughly efficient and in maintaining the very high percentage of success uniformly obtained by the students for the last 20 years. The Dispensing department is most commodious and perfect, and *no extra charge is made for its use.*

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The School being usually full, intending students should secure their places beforehand. Entries are now being made for April 15, 1889.

For syllabus, &c., apply by letter addressed to the Secretary.

6

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36 OXFORD STREET, LIVERPOOL.

Principal—Mr. J. S. WARD, Ph. Ch., F.C.S., &c.

Pass List for December: Minor—Mr. R. PRINCE, Longton; Mr. A. SHRUBSOLE, Chester; Mr. A. G. WRIGHT, Plymouth.

All at their first attempt.

In October 8 passed, and in July 7, making a total of 18 Minors at the last three Examinations.

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Syllabus, Pass Lists, Fees, &c., sent free on application to the Principal.

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G. A. CROSS, Secretary.

PRELIMINARY NOTICE.

LONDON COMMERCIAL TRAVELLERS' BENEVOLENT SOCIETY.

A DINNER of the above Society will be held at the Holborn Restaurant on Wednesday, March 20.

J. T. PEACOCK, ESQ.

has kindly consented to preside, and will be supported by a number of influential Stewards, whose names will shortly be published.

J. H. BETTS, Secretary, 35 Eastcheap, E.C.

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The Session commenced on January 1st, 1839. *Students can enter at any time but are advised to commence their studies at the beginning of a course.*

FEES (FROM OCTOBER 23RD):—

MINOR	To the December Exam. .. £5 5 0.—February ..	£9 9 0	
	Until Qualified	£12 12 0	
	12 Months' (Minor and Major)	£15 15 0	
MAJOR	To the December Exam. .. £4 4 0.—February ..	£7 7 0	
	Until Qualified	£10 10 0	

During the past Session 14 Students passed the Preliminary, 140 the Minor, and 12 the Major Examinations of the Pharmaceutical Society.

At the last Pharmaceutical Examinations 8 Major Candidates from this School presented themselves, 6 passed. The following 35 Minor Students were also successful.

MAJOR.

CARTER, B.	FORSTER, J. B.	WANT, W. P.
EVANS, J.	HEATON, S. W.	WRIGHT, J.

MINOR.

ARDEN, L.		PATCHETT, J.
BAKER, H. W.	HITCHMAN, W.	PEPPERDINE, H.
BELL, J. H.	HORSLEY, E. S.	REID, D.
BROOKS, J.	JONES, J.	RUTHERFORD, W.
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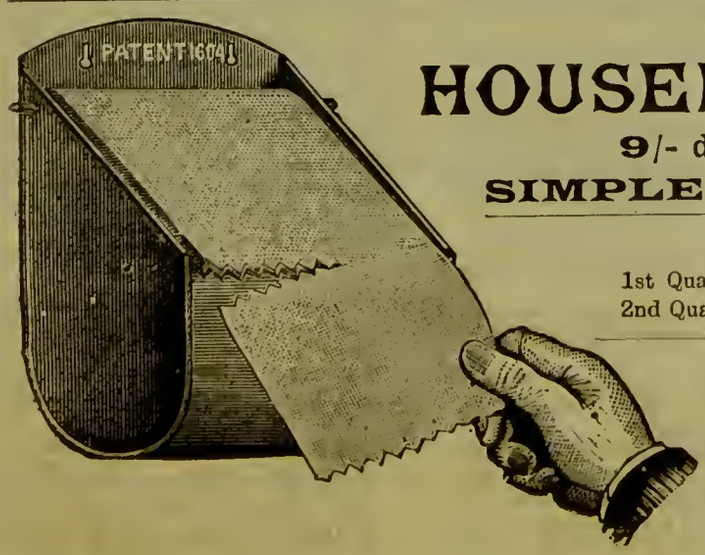

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This section of "The Chemist and Druggist" must be closed for press by Thursday noon of each week. Remittances payable to EDWARD HALSE.

TERMS

Advertisements in this department must be paid for in advance. From this rule no deviation can be made. Insertions are charged at the rate of ½d. per word, provided the advertiser attaches his name and address, for each word of which he must also pay at the same rate; or if he pays 1d. per word, his name and address will be registered and a figure attached to his advertisement. All correspondence referring to that figure must be addressed to "The Publisher of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.," and the figure must be distinctly endorsed upon the envelope. Letters will then be forwarded to their proper destination. A price is counted as one word, as *e.g.*, £1 10*s.* 6*d.*

DEPOSIT OF MONEY.—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us, accompanied by a commission of 6*d.* if the amount is £3 or under; and 1*s.* if over that sum. We acknowledge receipt of deposit to both parties, and hold the money until we are satisfied that either the goods are returned to their original owner or the purchase is completed.

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Surplus stock.—4 lbs. potass. iodid., 10*s.* lb.; 8 oz. morph. mur., 3*s.* 6*d.* oz.; 2 lbs. iodoform, 12*s.* lb. 199/41.

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Reliable recipes, 6*d.* each; full set of 130 neatly copied in book, 7*s.* 6*d.*; send for list. "Chemist," Edwards, Wye, Kent.

To Colour Manufacturers and others.—For disposal, the valuable recipe for the manufacture of vermilion, together with all necessary plant, &c. Apply to the manufacturer, W. H. Atkinson, 156 Camberwell Road, London, S.E.

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About 20 years *The Chemist and Druggist* and Diaries; what offers? A. B. C., 0/36.

Chemist and Druggist Diaries, clean, unused, 1831, 1832, 1883, 1884, 1885; what offers, cash or exchange? Brooks, 74 Turnpike Lane, Hornsey.

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Money without risk!—Send 1*s.* 6*d.* for any 3 recipes as sample, all guaranteed in use and very profitable; "Corn Cure," best in market; "Embrocatio alb.," like Elliman's; "Medicated Water," resembles Woodward's; "Glycerine Cream," enormous sale; "Lincolnshire Relish," digestive tonic; "Herbalade," superior to Mason's; "Digestive Syrup," facsimile of Siegel's; full directions; detailed lists free. Notice changed address: Brooks, Chemist, Turnpike Lane Hornsey, N.

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Shop rounds, carboys, counter scales, specie jars, for sale or exchange. Clayton, Oxford.

Counters.—2 second-hand mahogany-top counters, 15 ft. long, a few drawers, under 75*s.* each. R. Tomlinson & Sons, Bond Street, Birmingham.

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Carboys.—Six 4-gall. carboys, 10*s.* each; four 6-gall. do., 12*s.* each; four 8-gall. do., 16*s.* each; six 3-gall. do., 7*s.* each; four 2-gall. do., 6*s.* each. R. Tomlinson & Sons, Bond Street, Birmingham.

Show-case, bent plate-glass, for counter, 6 ft. long, as Maw's A18; as good as new; price 5*l.* 10*s.* Philip Josephs, 54 Old Street, Goswell Road, London, E.C.

Counter, solid mahogany top and front, fitted behind with drawers, 13 ft. long, price 10*l.*; also several others at Philip Josephs', 54 Old Street, Goswell Road, London, E.C.

Bent-glass counter case, 6 ft. long, 18 in. wide, stout sheet glass, fall-down mirror backs behind, lined velvet, price 63*s.* Philip Josephs, 54 Old Street, Goswell Road, E.C.

Shop rounds, show-cases, counters, drawers, mirrors, glass shelving, jars, carboys, specie jars, desk, pill machines, &c., &c.; half price. Natali & Co., 184 Aldersgate Street, E.C. (Nearly opposite Maw's.)

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Dispensing screens.—6 ft. dispensing screen, with mirror centre and marble slab, 5*l.* 10*s.*; ditto ditto, new design, 6*l.* 10*s.*; 4 ft. dispensing case, mirror back, 4*l.* 10*s.*; ditto, 8 ft. 6 in., new design, all mirror backs, 10*l.* R. Tomlinson & Sons, Bond Street, Birmingham.

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5 cwt. best red lead; what offers? Will exchange for saleable patents. Wilson & Co., Chemists, Dartford, Kent.

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Five iron oil cisterns, 2 200 gallons, 3 about 100 gallons each; to be sold cheap. Apply, Ainsworth, Clayton & Jowett, Blackburn.

Bland's pills, Richardson's, 10 gross tins, post free, 5*s.* 6*d.* Wylie, Chemist, College Street, Edinburgh.

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WANTED.

Ward's cough cure, 2*s.* 9*d.* size, cheap. Hamond Chemist, Otley, Yorks.

Dental show-case and copper vulcaniser. J. Young, 28 North Parade, Halifax.

Dispensing scales, beam, glass pans; for cash, or exchange recipes as advertised. Brooks 74 Turnpike Lane, Hornsey, N.

Gauot's "Physics," Bentley's "Manual," latest editions; lowest prices. Millar, Woodburn Place, Edinburgh.

"Pharmacopœia," 1885; Bentley's "Materia Medica"; Attfield's "Chemistry." Lowest price to W. Rumsey, 45 Craven Road, W.

Twelve each ¼-lb. and ½-lb. extract pots; 12 each N. and W.M. shop rounds, 2 lbs.; 12 each ditto, ditto, 1 lb. McIver, Dingwall.

To purchase second-hand, at reasonable price, a Hoffmann's combustion furnace to heat one foot of tubing. Mr. Webb, North Leigh, Wimborne.

Address Wanted.

Ball, John Abraham, late Chemist, Burgess Hill, Sussex; will anyone kindly furnish his address and employer to Mr. Vernall, 15 Springfield Terrace, Burgess Hill.

WANTED.—Full price (4*d.*) will be given for Copies of *The Chemist and Druggist*, Jan. 5, 1889, sent to the PUBLISHER, at 42 Cannon Street, London, E.C.

May be had on application, enclosing Business Card.

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For the manufacture of the Finest Aerated Hop Ale. This Essence is made from the choicest Hops grown, and is unrivalled for its peculiarly fine Hop Flavour and Aroma. Hop Ale made from this Essence has the full flavour of the finest Hops, and is a really appetising Bitter Beer.
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No. 1. Highly Concentrated.
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No. 2. Makes an exquisitely fine Lemonade.
Trade Price 6/6 per lb.; 12 lbs. and upwards, 6/.

HAY'S LEMON FLAVOUR.
Imparts to Lemonade all the Fine Aroma and Flavour of the choicest Lemons.
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HAY MANUFACTURING CHEMIST HULL BEVERLEY ROAD

FLATNESS OF TASTE

SO COMMON IN FILTERED WATER,

OBVIATED

BY USING

SILICATED CARBON FILTERS AERATED

By means of which the water is Aerated and Filtered simultaneously, rendering it, even after boiling, Pure, Bright, and Palatable.

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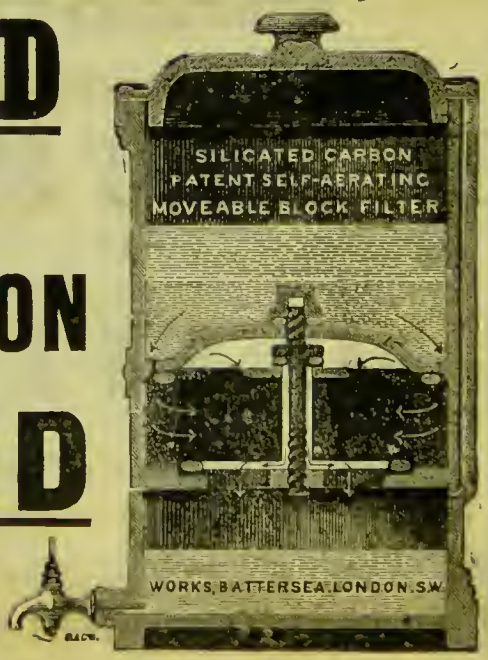

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Most Delicious Sauce in the World. Bottles, 6*d.*, 1*s.*, and 2*s.* each

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Delicious Custards without Eggs. In Boxes, 2*d.*, 6*d.*, and 1*s.* each.

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Delicious Blancmange in a Few Minutes. Boxes, 6*d.* and 1*s.* each.

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GOODALL, BACKHOUSE & CO., LEEDS

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GOOD VALUE

THE GIANT 1d. BOTTLE OF SAUCE.
LARGEST IN THE TRADE.
In Half-Gross Boxes, at 6/6 per Gross.

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1*d.* Sample Bottles, dozen parcels ..	..	per gross	5/	extra quality	6/
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1*d.* Giant Bottles, dozen parcels ..	..	"	6/	"	8/
" " ½ gross boxes ..	..	"	6/6	"	8/
¼-Bottles (flat or round), reputed ½-pint	..	"	16/	"	24/
½-Bottles (flat or round), reputed pint	..	"	28/	"	32/
½-pint Imperial Round Stoppered Bottles	..	"	30/	"	36/
1-pint Imperial " "	..	"	50/	"	60/
12½-gallon Casks (casks free).. ..	..	each	20/	"	32/

ROYAL CAFÉ SAUCE.

In 8-oz. square-stoppered bottles, 48/ per gross.
A rich, fruity Sauce of fine flavour, and worth especial attention, as being the most saleable in the market.

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IN CARDBOARD BOXES.

Flavours—Orange, Lemon, Calves' Feet, Vanilla, Raspberry, and Noyeau.
HALF-PINTS, 1/9 per doz.; PINTS, 3/3 per doz.; QUARTS, 6/- per doz.

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DRIED ORANGE-PEEL FOR DRUGGISTS.

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GUÉRET FRÈRES,

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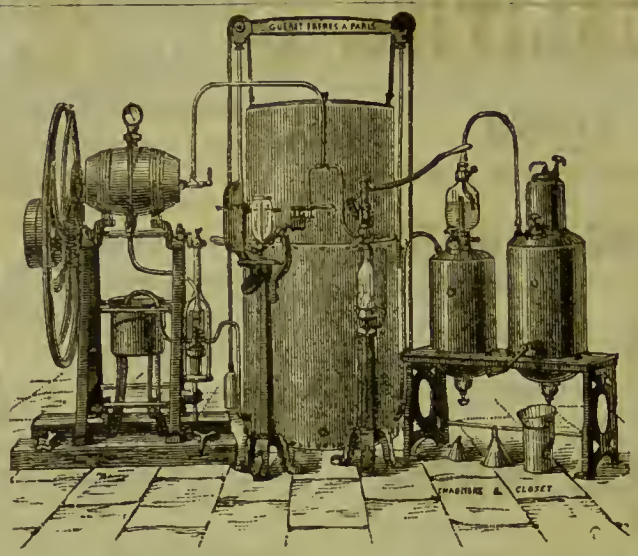
SYPHONS WITH SHORT LEVER,
With metal tops of pure tin, carefully mounted, and the glass of the first quality.



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GAZOSELTZ,
For the instantaneous production of Aërated Beverages at table. Any one can use them.

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A WONDERFUL SUCCESS!!

NON-INTOXICATING BEER
Made from MASON'S Original

EXTRACT of HERBS

(REGISTERED.)

Composed of Yarrow, Dandelion, Comfrey, & Horehound.

ENLARGEMENT OF SIZE.

A Sixpenny Bottle makes EIGHT GALLONS of

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A NON-INTOXICATING BEVERAGE

Full of Body and Flavour, with a Creamy Head like Bottled Ale, the most perfect substitute for Alcoholic Drinks ever discovered, for either Summer or Winter.

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BEWARE of others copying our title.
MASON'S is the original and only genuine.
MASON'S is a Special Compound entirely from Herbs.

NO OTHER EXTRACT MAKES BEER LIKE IT.
Sold in Bottles at 6d., 1/, & 2/ each, with directions.

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Make Temperance Wines in a few minutes.
Ginger, Orange, Lemon, Raspberry, Black Currant, &c.
These are having a very large sale now, and are extensively advertised.
Sold in Bottles at 6d., 1s., and 2s. each.
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A MOST VALUABLE AGENCY.

TOWER TEA.—Only the choicest kinds, selected from the London import market, are used. Absolute reliance can be placed on its perfect purity and uniform high quality.

TOWER TEA.—Used by thrifty housekeepers; sold by enterprising agents in every town in the United Kingdom, who find it a profitable Agency.

Registered Trade Marks, Nos. 44,027 and 43,992.

NOTE. ☞ THE ABOVE TRADE MARKS APPEAR ON EVERY PACKAGE.

TOWER TEA.—HUNDREDS OF TESTIMONIALS from all parts of the kingdom speak to the excellent character of this Tea, its popularity with all classes, and the high value of the Agency. A representative selection of these testimonials has been published, and can be had on application, with samples of undermentioned Teas; also the little pamphlet, "A Short History of Tower Tea"; and the book of pictures, "Voyage and Adventures of Ah-Chin-Chin" (1*s.*).

TOWER TEA, 1s. 4d.	per lb.	(retail price)	Sound Wholesome Tea.
TOWER TEA, 1s. 8d.	,,	,,	Powerful Tea, whole and semi-leaf.
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WHERE VACANCIES MAY EXIST, AGENTS ARE APPOINTED BY

THE GREAT TOWER STREET TEA CO., LD.

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THE BEST NATURAL APERIENT.

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A RED DIAMOND.

This Label will henceforth serve to distinguish the HUNGARIAN APERIENT WATER SOLD BY THE COMPANY from all other Aperient Waters.

DEMAND THE DIAMOND MARK,

and insist upon receiving the HUNGARIAN APERIENT WATER of the APOLLINARIS COMPANY, LIMITED, London.

Of all Druggists and Mineral Water Dealers.

THE "NIAGARA" GLOBE-STOPPERED BOTTLE.

Any Name on Bottles free for orders of 50 gross. Mould charged 10/ for orders of 10 Gross or upwards for each size or shape.

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Illustrated Catalogue of Soda-water Machinery & Accessories forwarded free.

Present Prices, net:—SPLITS, 14/, FULL SIZE, 16/ per Gross, including Rings. 12 and 14 oz., 1/; 16 oz., 2/ extra per Gross. At our Works, LEEDS, YORKSHIRE.

EXTRA RINGS, 1/8 per Gross. **SEND FOR SAMPLE AND COMPARE!**

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EDWARDS'

DESICCATED and WHITE (Vegetable)

SOUPS.

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International Exhibition, Liverpool, 1886.

The Manufacturers beg to direct the attention of the Trade to the above articles, now commanding a ready and remunerative sale. They are put up in a neat and attractive form, in

One Pound, Half-pound, and Quarter-pound Tins.

The DESICCATED SOUP—extract of Beef and Vegetables—is also put up in

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These are packed in cases of 36 one pound, 48 half-pound, and 72 quarter-pound Tins; the penny packet gross and half-gross boxes, in cases of 12 gross. Carriage, tins, and cases free. A liberal supply of show-cards, glaciers, and printed matter, consisting of circulars, Medical testimonials, Press opinions, and counter bills with name and address.

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SAMPLE, WITH TERMS, FREE ON RECEIPT OF BUSINESS CARD.

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VALUABLE & INTERESTING TO EVERYBODY.

COMPRESSED HOPS.

Best Hops compressed into small parcels of one pound and half-pounds, and sent out in cases containing 30 lbs. each These Hops are specially selected and compressed for keeping purposes, and will retain their aromatic strength for a considerable time.

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P.S.—Chemists will naturally see the great advantage in making their own Bitters from the Pure Hop itself.

☞ NOTE NEW ADDRESS.

Specially Packed by **A. WILKINSON & SONS, 37 CANNING PLACE, LIVERPOOL.**

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Sole Agents for Chemists—EVANS, SONS & CO., Liverpool; EVANS, LESCHER & WEBB. London; EVANS, SONS & MASON, Lim., Montreal.

TRADE MARK.

SODEN MINERAL PASTILLES

TRADE MARK

The BEST and SAFEST REMEDY for all Affections of the THROAT, CHEST, LUNGS,

COUGHS, ASTHMA, SORE THROATS, BRONCHITIS, CATARRH, CONSUMPTION.

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WHOLESALE, 10s. 6d. NETT PER DOZ.; RETAIL PRICE, 1s. 1½d. PER BOX.

☞ **CAUTION.**—See that each box has Dr. W. Stoeltzing's Signature, and our Trade Mark (two Globes with Cross and Crescent), which is impressed on each Pastille; none others are genuine.

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Any Chemist applying to us will be supplied gratis with Counter Bills, size about 11×9, printed on one side only; also with Transparent Showcards for the window.

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As supplied to the War Office.

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Caned, each	7/	8/	12/5	20/9
Wired, each	6/6	7/9	11/9	18/11

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REGISTERED.

This Water Bath will supply a long-felt want amongst Chemists and Perfumers, where small quantities of materials have to be dealt with.

The **old form** of Water Bath necessitates the use of a **second vessel** for pouring the melted **Pomade, Cream,** or other substance into the bottles or jars in which they are sold. In the "**MAY-ROBERTS**" **Water Bath** the earthenware bowl can be lifted out of the tin containing the boiling water, the process of cooling being thereby very much expedited, and the contents can be **poured** into the bottles or jars **direct from the bowl.** The Bath is also supplied with an earthenware cover.

	1 PINT.	5 PINT.	10 PINT.
Each	3/0	5/6	9/6

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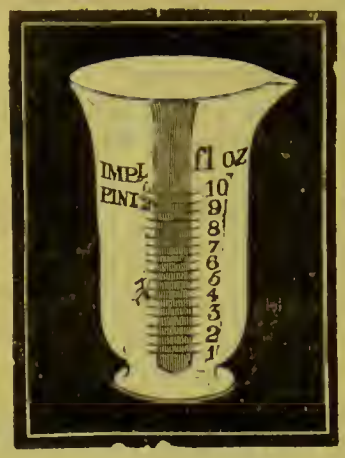

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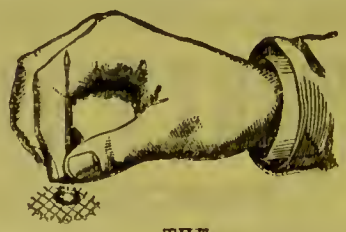

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SUPPLEMENT.

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SATURDAY, FEBUARY 2, 1889.

Partnerships.
Situations Vacant.
Situations Wanted.
Miscellaneous.

This Supplement will be given free to any Chemist and Druggist or Assistant who will call for it at 42 Cannon Street on Friday afternoon, or will be posted on Fridays to any one who sends an addressed postal wrapper.

ADVERTISEMENTS for this Supplement can be received on FRIDAY MORNING, first post, though it is requested that these may be sent in as early in the week as possible.

EXCHANGE COLUMN ADVERTISEMENTS will appear on page 8 (bottom folio), and must be received not later than THURSDAY AT NOON, to appear in the issue of the Saturday following.

All Advertisements for this Supplement and Exchange Column must be prepaid. Remittances payable to EDWARD HALSE, and crossed MARTIN & Co.

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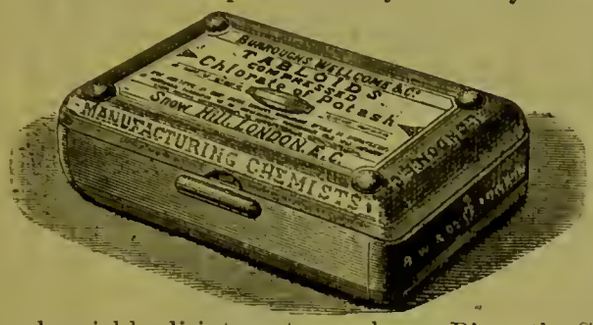

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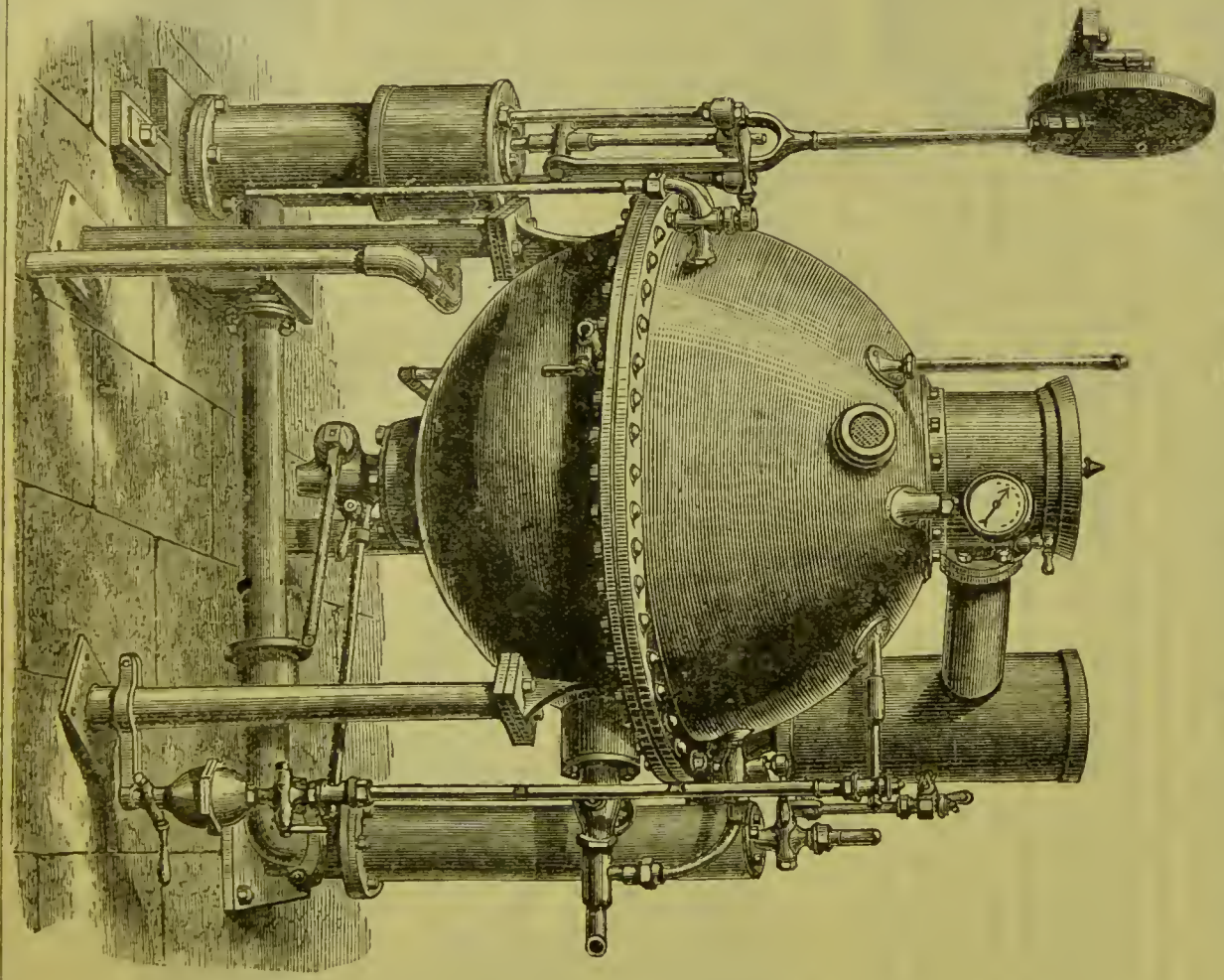

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" " 3 gr., 100 in bottle		3 9	31 0
" " 5 gr., Vinaigrette style (oval bots., 24 in each)		2 0	17 6
" " 5 gr., 100 in bottle		5 6	50 0
Quininæ Sulph., 1 gr. Ferri Hypophos b, 2 gr. Acid Arsenios, 1 50 gr. Strychninæ Sulph., 1 50 gr. Saccharin, 1 100 gr.	100 in bottle	4 0	36 0
Quininæ Sulph., 1 gr. Arsenios, 1 20 gr. Strychninæ, 1 30 gr.	100 "	4 0	36 0

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BURROUGHS, WELLCOME & CO.
Snow Hill Buildings, London, E.C.

THE CHEMIST AND DRUGGIST

ESTABLISHED 1859.

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The Pharmaceutical Society of New South Wales.

The Midland Pharmaceutical Association of New Zealand.

The Pharmaceutical Society of Queensland.

The Pharmaceutical Society of South Australia.

The Hobart Chemists' Association.

The Launceston Pharmaceutical Association.

South African Pharmaceutical Association.

For Australasian subscribers the subsidiary journal THE CHEMIST AND DRUGGIST OF AUSTRALASIA is included.

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"THE ART OF DISPENSING."

THE third edition of this work is now ready. Price 3*s.* 6*d.*, or by post 3*s.* 10*d.* May be ordered along with ordinary goods from the principal wholesale houses, who supply it at the published price, 3*s.* 6*d.* A list of the firms who hold stock will be found in the supplements of recent issues.

This book may be obtained in Australia from the office of *The Chemist and Druggist of Australasia*, Normanby Chambers, Melbourne, price 5*s.*

Our agent in New York, Mr. Harry V. Dakers, 45 Liberty Street, will supply "The Art of Dispensing" to American pharmacists at $1.25 per copy, post free.

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LIVERPOOL CHEMISTS' ASSOCIATION.

THE annual meeting was held at the Royal Institution on Thursday evening, January 31, Mr. A. H. Samuel, F.C.S., president, in the chair. The meeting was well attended. Several donations to the library were announced and Messrs. W. Burgess and J. Newton were elected members.

The Secretary then read the

ANNUAL REPORT.

In this the council stated that during the session nine ordinary meetings had been held, and some very valuable papers read, notably one on "The Origin of Petroleum," by the President, and another on "Tabellæ and Pastils," by Mr. Harold Wyatt, jun. There had also been some discussions upon "The Pharmacy Acts Amendment Bill," and on the "Advisability of Adopting Regulations for the Keeping, Selling, and Dispensing of Poisons." In connection with the latter the association had forwarded a petition to the Lords of the Privy Council, asking them to confirm the resolution of the Council of the Pharmaceutical Society declaring "That carbolic acid ought to be deemed a poison within the meaning of the Pharmacy Act, 1868."

The amalgamation of the late Liverpool Registered Chemists' Trade Association with this association had proved very advantageous by bringing it into closer communion with the chemists and druggists of the city generally.

The seventh edition of the "Liverpool Chemists' Price List" was nearly sold out, and the council had pleasure in announcing that they had appointed a committee, consisting of Messrs. T. F. Abraham, J. Bain, and J. R. Day, to revise the list with a view to the publication of a new edition.

During the session a scheme had been completed by the joint library committee of the societies meeting at the Royal Institution, by which all the books of these societies are now accessible to the members of this association.

After referring to the relations of the association with kindred bodies, the report spoke of the success of the dinner held on March 15, 1888, under the chairmanship of Mr. A. H. Samuel, F.C.S. (president), promising that this reunion should be annual, and concluded by referring to the death of Mr. W. T. Warhurst and that of Mr. Richard Evans, both of whom were highly respected members of the association. During the session twenty-two new members joined the association, and five resigned or had been struck off, leaving the numerical strength at the present time 124. The balance in the hands of the treasurer amounted to 16*l.* 16*s.* 11*d.*, the total income of the association having been 45*l.* 10*s.* 7*d.* Mr. Parkinson criticised the alleged heavy item for printing, but it was shown that this was not above the average. After some further discussion the report was approved of.

A ballot was then taken for the election of the members of council to fill the vacancies of those who retired by lot. The following were duly elected:—Messrs. A. C. Abraham, F. J. Mackinlay, R. Parkinson, J. J. Smith, W. R. Smith, R. M. Sumner, and T. Williams, Mr. W. R. Smith filling the place of Mr. A. Stewart, of Birkenhead, who did not desire re-election.

In accordance with notice given, Mr. Ward then moved—

> That the words "every alternate Thursday," in law 8, be omitted, and the word "monthly" be substituted.

This was seconded by Dr. Symes, and supported by Mr. Dickinson. The option of fortnightly or monthly meetings was advocated by Messrs. A. and T. Abraham, Sumner, Hockin, Mackinlay, and others. The President ruled that no modification of the resolution could be put at that meeting as no notice had been given, and he suggested that the motion should be negatived, and that a special meeting should be called at which a new motion allowing this option should be put. After a lengthy discussion, which continued to a late hour, the President's suggestion was adopted. There was a good attendance. Votes of thanks to the authors of papers, to the donors to the library and museum, and to the officers and council were passed on the motion of Messrs. Mackinlay, Abraham, Barret, and Thornton. Messrs. Hockin and Day were appointed scrutineers, and seven nominees were elected.

Metropolitan Reports.

ANOTHER PHOTOGRAPHIC EXHIBITION will be held at the Crystal Palace in March. Mr. Renshaw Russell at the Palace is looking after it.

ANNUAL DINNER.—The employés of Messrs. Lynch & Co., druggists' sundriesmen, met at dinner on Saturday at the Falstaff, Eastcheap. Mr. Henry A. Paull presided, and was supported in the vice-chair by Mr. T. Peck. After an excellent dinner, the toast of "The Firm" was proposed amid a round of applause by Mr. H. Winter, the manner in which the toast was welcomed showing very plainly the happy feeling which existed between the principals and their employés. In the course of the evening many excellent songs were given, Mr. G. Augustus Holmes accompanying. The meeting was decidedly successful.

THE DEPRESSION IN THE TRADE.—On Tuesday at the usual weekly meeting of the Strand Guardians held at the offices, 15 Henrietta Street, Mr. T. Hill in the chair, a chemist's assistant named Harle was summoned before them with regard to having deserted his children, who were chargeable to the common fund of the Union. Harle said he had been in business for some time in Blackman Street, Borough, as a chemist, but his wife was so frequently drunk in the shop that he had to give it up. He was now unable to do anything, as owing to the badness of the drug trade he could not get employment. The trade was no good at all now. He said his wife had left him and treated him very badly. The wife, however, wrote to the guardians to say her husband was a very cruel man, that he had knocked her down repeatedly, blackened her eyes, and otherwise ill-treated her. This he said was all untrue. The Clerk added that Harle's father thought there were faults on both sides. The matter was ordered to stand for a time, Harle's last employers to be communicated with in the meantime.

POISONED BY A TEETHING-POWDER.—Dr. Macdonald, the coroner for North east Middlesex, held an inquiry at Tottenham on Saturday regarding the death of Frank Sleigh Barker, aged six months, son of a block-cutter. Deceased's mother in evidence stated that on January 18 the child was a little feverish, and she gave him part of a teething-powder, and put a poultice on his chest, as she was afraid that he was going to have an attack of bronchitis. Dr. Mowat was afterwards called in, and attended until the child's death on January 22. In his evidence Dr. Daniel Mowat, of Holmwood, Stamford Hill, deposed that he was called to the deceased on January 20, and found him comatose. He applied remedies, and the child partially recovered, but afterwards relapsed. Witness noticed slight tetanic spasms of the forearm, and slight twitching of the eyeballs to the left side. In his opinion death was due to the powder. Teething-powders were well known to contain morphia. The jury returned a verdict "That the deceased died from morphia-poisoning from a teething-powder, such death being accidental." [It is to be regretted that the coroner did not order the remaining part of the teething-powder to be analysed, or call upon the chemist who supplied it to attend. Dr. Mowat's statement that "teething-powders were well known to contain morphia" is not quite accurate. Some powders may, but most do not, contain the narcotic.—ED. *C. & D.*]

TRADE PROTECTION FOR CHEMISTS.—At the meeting of the Chemists' Assistants' Association, held on Thursday, January 24, a discussion took place on "Trade Protection," and opened with a paper by Mr. A. C. Stark, one of the honorary secretaries, who said at the outset that he did not propose to attempt to adjust the relation between fair and free trade, nor did he hold a brief for monopoly. He considered that to submit a scheme for the State protection of the pharmacist would be useless because premature. His object that night was to vindicate the claims in the abstract of pharmacists to some measure of protection at the hands of the State. Defining the two aims of wise legislation as (1) the safety and benefit of the public, and (2) justice to the individual, he maintained that neither of these two aims would be attained, as far as regarded the subject of discussion, until the pharmacist was properly protected. As to the safety and benefit of the public, that was, he considered, in no way provided for. By the present shameful state of the patent medicine law anyone could obtain the most powerful drugs or deadly poisons by paying 1½*d.* to the revenue. The public was exposed, too, to great danger by the employment of unqualified managers and assistants, and here he pointed out the inexplicable action of the Pharmaceutical Society in offering a protest against the assistants clause in the latent Bill. Justice to the individual, he pointed out, was totally ignored by the present state of things. The State insisted upon a long course of study and examination before allowing the pharmacist to open business on his own account, or call himself by a recognised title. It then left him at the mercy of a thousand unqualified competitors, not handicapped by examination, and offered him as an inducement to further progress exemption from serving on his country's juries; but not even this is the chemist and druggist allowed, we may add. The parallels that had been drawn between the pharmacist's position and that of the Inns of Court, the medical profession, and the Amalgamated Society of Engineers were shown to be most inapt; the pharmacist's wares being shown to be tangible, and those of the doctor or barrister intangible, and thus the latter's success depended on his individual merit. But if they examined the evolution of the medical profession to its present state, they would find its progress marked by two distinct phases; they were those of education and recognition. Now he feared that pharmacists, as a body, had not yet reached the full development of the first of these, whilst the dawn of the second was but just commencing to break. Until the pharmacists were recognised by the State as a legitimate profession, and not regarded, as they officially were, as merely tradesmen, little would be granted by the State in the way of monopoly. No government nowadays would hear of monopoly in connection with a trade. Moreover, if they analysed the pharmaceutical body they would find it a most heterogeneous assembly. Probably not two-thirds were examined men, many cared nothing about the advancement of pharmacy, and a new school had arisen whose hope of salvation lay in conformity to that system of ethics known as "cutting." Until the body of pharmacists was elevated and unanimous protection would not be heard of, and certainly would not be granted to a body of men so diverse as these. There was but one remedy for this state of things, and that, he asserted, was increased education—such an increase in the severity of the Preliminary examination as would tend to exclude men not likely to succeed in the calling, and the passing of this before apprenticeship should be compulsory. He pointed out, too, the anomalous state of the regulations relating to the registration of men in business before 1868 and the Modified examination, and strongly advocated the suspension of the registration clause and the abolition of the Modified examination. In conclusion, he believed that some measure of protection would be granted to the pharmacist, but it would take the lines of restriction on dispensing and on the sale of powerful and poisonous drugs. Meanwhile, the first steps to be taken were the alteration of the patent medicine law, the increase in the severity of the Preliminary examination, and the enlargement of the poison schedule. At the conclusion of the paper a long and animated discussion took place, the general feeling being decidedly in favour of protection and opposed to the author's views.

A GERMAN firm of fish-glue manufacturers state that during the year 1888 they have sold eleven million bottles of their product, of which quantity about three millions were shipped to the United Kingdom and British Colonies.

CORRECTION.—In Mr. Fletcher's paper on "Tinctures," page 110, Table II., column 3, opposite tinct. buchu, *insert* "96·9." Also same page, column 1, bottom line, *for* "by dis-" *read* "be distilled," and in column 2, line 14 from bottom, *omit* "tilled," and *for* "filteris" *read* "filter is."

SMOKERS, TAKE NOTE.—Dr. S. Hajek, of Vienna, declares that smokers are less liable to diphtheria than non-smokers—the ratio of liability is 1 to 2·8. In discussing the paper of which this is the germ, Dr. Schiff remarked that smoking was forbidden in all bacteriological laboratories, as the smoke was known to hinder the development of cultivated bacteria.

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor, will much oblige.

BARTON.

NOT THE PROPER BOTTLE.—On Sunday a woman known as "Tamar" Dixon went to Mr. G. H. Smith's, chemist, Market Place, Barton, for the purpose of charing. Whilst in the office she took a draught out of a bottle (presumably thinking it was brandy), and, after having her breakfast, went to her home in the Butchery, where it is said she asked for some salt and water. She then suddenly expired, and it is believed that the bottle contained poison.

BIRMINGHAM.

MR. JOHN ONION has opened a new pharmacy at 5 Villa Road, Handsworth.

MR. BOLAS'S shop in Hockley has, it is said, passed into the hands of Mr. Dancer, who temporarily managed it during Mr. Bolas's illness.

A SOCIAL TEA was held at the Colonnade Hotel, New Street, on Thursday last week to celebrate the return of Mr. Thos. Barclay to the Town Council at the municipal election in November last.

IN consequence of the temporary suspension of the Association's classes, Mr. Stokes Dewson intimates that he will hold classes for Minor and Preliminary students at 90 New Street, on the nights advertised by the Association in October last, if a sufficient number of students give in their names.

A CURIOUS ACCIDENT is reported from a suburb. A gardener went to a chemist's shop and asked for a combination, carbolic acid being one of the ingredients. After mixing, violent chemical action was set up, and the operator sustained some injuries about the face and eyes. Gardeners' recipes should be more carefully studied before admixture.

A NEW LIGHT.—In a shop in New Street is to be seen a good display of incandescent gas-burners. They consist of ordinary Bunsen burners, which heat a cone not unlike a candle-extinguisher, and it is held a little above the flame. These cones are perishable, but one lasts as long as twelve months. The consumption of gas is said to be only 2½ cubic feet per hour.

CHEMISTS AS COUNTY COUNCILLORS.—Mr. Sydney Fisher, chemist and dentist, Aston, has been elected a member of the Warwickshire County Council for one of the Aston divisions; and Mr. James Baly, medical plaster manufacturer, has been appointed a member of the same body for Warwick. Mr. Alexander M. Chance, chemical manufacturer, and Mr. John E. Wilson, phosphorus manufacturer, have been elected to the Worcestershire Council as representatives of Oldbury.

CHARGE OF STEALING OINTMENT-BOXES.—At the stipendiary's court at Fenton on Thursday of last week, Edward Potter was charged with having stolen three ointment-boxes and some moulds, the property of Messrs. Pratt & Co., earthenware manufacturers, Fenton. The defendant was in the employ of the prosecutors as an ointment-box maker. It was alleged that whilst under notice to leave he took some moulds and ointment-boxes. He subsequently obtained a situation at the manufactory of Messrs. Ashworth, of Hanley, and since then had been there making boxes in the same way as at Messrs. Pratt's. The process was stated to be a trade secret of Messrs. Pratt's. Prisoner was remanded on bail.

HULL.

THE CHEMICAL WOOD PULP COMPANY (LIMITED) has made an offer to the Corporation Waterworks Committee for the purchase of land at Stoneferry, where borings had proved very unsatisfactory, salt being found in the water. The offer includes the reservoirs and adjoining land. The price which the company is prepared to pay is 150*l.* an acre for the land at Stoneferry alone, leaving out of the question the buildings and machinery standing on the land. The committee seem to regard the offer as somewhat nonsensical, but are to submit to arbitration.

LIVERPOOL.

ANNUAL TEA.—The staff of Messrs. Evans, Sons & Co., Liverpool, held their annual soirée in the rooms of the Young Men's Christian Association, Mount Pleasant, last week. A gathering of about 350 people sat down to tea in the large reading-hall. After tea a miscellaneous concert was held, in which Mr. Arthur E. Evans, the Misses Evans, and others took a part. The chair was occupied by Mr. John J. Evans.

A PITIFUL STORY has just been told in the local Police Court. Summonses had been served upon Edward Coe, dentist, of Anson Street, for illusing one of his apprentices, the allegation being that he forced the lad to take off his boots and stockings, tied his feet together, and having placed him on the bed gave him seventy-two strokes on his bare feet with a cane. It was also asserted in Court that the boy had been so hungry that he had devoured potato-peelings and even tea-leaves which the servant had swept off the room floor. Warrants were granted.

SACCHARIN.—Chemists appear to have lost an opportunity in not pushing the sale of this article, and it is now supplied to the public chiefly through grocers. Some time since, wholesale agents were appointed in London for the grocery trade, who immediately issued circulars headed, "Saccharin at popular prices"; these were supplied freely to retailers, and now, whilst in many chemists' shops it is not to be found, almost any family grocer will supply it, the price being, ½ oz., 2*s.* 6*d.*; 1 oz., 4*s.* 9*d.*; 4 oz., 18*s.*

ASSOCIATED SOIRÉE OF THE SCIENTIFIC, LITERARY, AND ART SOCIETIES OF LIVERPOOL.—Some disappointment was felt when it became known that this would not be held in December on account of St. George's Hall being engaged for the Art Congress. Nothing will be lost, however, by the omission for a single year. It began to be difficult to get together a sufficient number of new articles, &c., to sustain the great interest which at this gathering was originally evinced. It is understood that in the present year renewed efforts will be put forth in this direction, and that the soirée of 1889 will soon become an assured success.

ALLEGED THEFT.—At the Police Court on Wednesday, January 30, Mr. Raffles remanded James Parkinson, George Brown, Henry Yates, and Simon Barnett, four youths, on a charge of having stolen 19*l.* 19*s.* the money of the executors of the late Mr. Warhurst, druggist, Great Homer Street. Parkinson was employed as errand boy at Warhurst's branch in Wavertree Road, and on January 28 he was sent by the manager to the Great Homer Street shop with the 19*l.* 19*s.* He never turned up with the money, and three days afterwards he was arrested with the other three prisoners in a cocoa-room in Manchester, where they were spending money freely. When searched 14*l.* 5*s.* was found in their possession. They confessed to the police that they had arranged to take the money.

THE ELECTRIC SUGAR BUBBLE.—In Liverpool a large number of shares were held in the "Electric Sugar Company." These, which were of the nominal value of 20*l.* each and were sold in the Liverpool stock market as high as 115*l.* only a few weeks since, are now quoted at 7*s.* 6*d.*, and are very dear at the price. Sugar-refiners, sugar chemists, and scientific men here who were likely to know anything about the matter all denounced it from the first; but it was assumed that they were interested parties. It is now known that no electricity was used in the process, the fraud being perpetrated as follows:—Large cases, supposed to contain machinery, were delivered at the works, which really contained refined crystallised sugar. This was taken to the secret room, where it was moistened and then dried, so as to cause the crystals to adhere together in small masses, which being passed through granulating sieves constituted "electric sugar." The unrefined sugar delivered at the factory remains there still.

MICROSCOPIC SOCIETY.—This society entered on its twenty-first session on Friday, January 18, when an inaugural address was delivered by the president, Mr. J. C. Thompson, F.L.S., F.R.M.S., senior partner in the firm of Thompson & Capper, homœopathic chemists, of this city. He dealt at some length with the progress which microscopy had made during the existence of the society, and referring to the future possibilities of the instrument, he said it must be remembered that, although it had revealed the fact that every individual being—whether man or cabbage, infusorium or ape—was in its own individual existence but a gradual development from a speck of animated jelly, yet beyond that there was an impenetrable barrier which neither the microscopist, chemist, nor biologist was as yet able to break down. The second meeting of the session was fixed for February 1, when Dr. Charles Larkin was to read a paper on "The Skin, Healthy and Diseased," illustrated by the oxyhydrogen lantern Thereafter the meeting was to take the form of a conversazione, when many objects of interest were to be exhibited, the greater part of which were illustrative of the paper.

LUTON.

INLAND REVENUE PROSECUTION.—The Luton borough magistrates on Saturday fined Edward George Brown, a local tradesman, 5*l.* for selling a quart of methylated spirit for 10*d.* without a licence. The defendant said the spirit was sold inadvertently by an assistant when he was away at Liverpool, but the Inland Revenue Commissioners considered it a grave case, on account of the loss to the revenue involved.

MANCHESTER.

DEATHS UNDER CHLOROFORM.—Two persons to whom chloroform had been administered died in Manchester last week. The first case was that of a woman named Margaret Redden, who was being confined, and to whom Dr. Annacker, house surgeon at St. Mary's Hospital, gave some chloroform. Dr. Annacker informed the coroner's jury that he had administered chloroform in 400 or 500 cases, and in no case save this had there been a fatal result. The jury returned a verdict of "Death by misadventure." Death was caused, they said, by chloroform, but the chloroform was properly and skilfully applied. In the second case, that of a man named John Bouthward, who was undergoing an operation, the jury found a verdict of "Death from natural causes."

A MOVE FORWARD AND ITS CELEBRATION.—On Saturday evening, January 19, Messrs. Robert Gibson & Sons, the well-known manufacturers of medicated lozenges, formally opened their new premises by entertaining to dinner a large company. The new works have been built upon the site of the old factory in Erskine Street. After an inspection of the arrangements, the company met in the ground floor, which had for this festive occasion been converted into a grand banqueting hall, with tables arranged for a large company, which included the work-people and their wives, the counting-house staff, and other representatives of the firm, as well as a number of invited guests, including the Mayor of Manchester (Alderman Batty), Sir John Harwood, Aldermen Evans and Asquith, Councillors Mark, Lloyd, Clay, Dr. Woodcock, J. R. Hampson, J.P., Mr. Littlewood (architect), Mr. Holt (builder), and others. At the conclusion of the dinner Mrs. Gibson and Mrs. F. H. Gibson, accompanied by Lady Harwood, entered the room, and were received with hearty applause. Thereafter the usual loyal toasts were duly honoured, and several others were proposed and appropriately responded to. A most agreeable evening was spent, and all were warm in the expression of their wishes for the continued success of the firm.

THE CHEMICAL INDUSTRY.—A deputation representative of various branches of the chemical and allied industries waited on Monday on the directors of the Chamber of Commerce to urge the desirability of the appointment by the Chamber of committees charged with the furtherance of various industries, including (according to Mr. Ivan Levinstein, who headed the deputation) the manufacture of drugs and pharmaceutical preparations. No pharmaceutical chemist was on the deputation, and no one appears to have taken any part in the movement, but hopes are entertained that some of the representatives of that branch of chemistry will be found on the committee, if one is formed. The chairman of the board (Mr. G. H. Gaddum) and other directors who spoke indicated that they were in sympathy with the object of the deputation, and that the matter would receive favourable consideration. Various subjects were mentioned on which it was suggested such a committee might advantageously take action, including the patent laws, railway and insurance rates, and the difficulties which the Excise authorities are putting in the way of the chemical trades in respect of the numerous processes in which alcohol is used. On the last-mentioned point it was stated by one of the speakers that owing to the action of the Excise authorities some trades that used alcohol found that they really could not exist.

NORTHAMPTON.

THE NORTHAMPTON BOARD OF GUARDIANS has given the contract for the supply of drugs and medicines for the workhouse dispensary for the ensuing year to Mr. McKinnell, of Wood Hill.

PERSHORE.

THE FEMALE QUACK.—Mary Owens has, by the Pershore magistrates, been committed for trial on a charge of cheating. The story alleged is that Mary Owens visited the houses of labouring people, passing herself off as the wife of a surgeon, or as a nurse from Worcester Infirmary; but that for the sake of variety her story also gave it that her husband was "a real gentleman—a chemist" (happy definition!), but "given to wild ways." By these glowing personal introductions Mrs. Owens is said to have worked upon the vanity of her patients, and to have completed the formula by working upon their fears, telling them that they had all sorts of diseases, which of course they had not. And so for pills or mixture and "blarney" she got lodging and money—the latter in sums of 9*d.* to 5*s.*

PLYMOUTH.

HOW IS IT?—Apprentices in this town appear to be difficult to secure just now, judging from the advertisement columns of the local papers. Four of the leading chemists have taken a serial space to make this requirement known. Possibly it is owing to the actual state of the drug trade in the "Three Towns" during the past three or four years.

SHEFFIELD.

SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.—On Wednesday next, February 6, Dr. Sorby, F.R.S., LL.D., will give a popular lecture on "The Structure of Iron and Steel as revealed by the Microscope," in the Whiteley Institute. The arrangements for the lecture are based on those delivered at Firth College—a charge of 1*d.* being made for admittance, with some reserved seats at 6*d.* each. Ladies will be admitted.

OPENING OF A HOSPITAL AT GLOSSOP.—Last week the hospital which was erected and endowed as a gift to the Borough of Glossop by the late D. Wood, Esq., was opened for the admission of patients. The building has cost 6,000*l.*, and in addition to this, the donor left 19,000*l.* as an endowment. There is accommodation at present for sixteen patients, exclusive of the staff.

LEAD-POISONING.—Sheffield does not stand alone with respect to the state of the water, as reports from Bradford indicate that things are worse there than they have ever been here, and the rapid increase of cases of lead-poisoning in the townships surrounding Bradford is causing much alarm. The medical men have reported numerous cases of partial paralysis, and those under treatment at present number something like a hundred. Analysis of water taken from taps shows lead in quantities from nine-tenths up to a grain and a half per gallon.

TO SMOKE OR NOT TO SMOKE, THAT IS THE QUESTION.—A goodly portion of the correspondence columns of the Shef-

field dailies has for the last fortnight or so been taken up with the discussion of smoking. This was given rise to by a paper read by Dr. Porter before the Sheffield Press Club. Many of the letters published were, as usual, pointless, the best part of them being the signatures. Quotations from Drs. Richardson, Spenser Wells, and Heath were brought forward frequently to back up the arguments. Not content with this, the great anti-smoke crusaders—Dr. Martin and Mr. Nield—made a special descent on Sheffield to hold a public meeting, and by their incisive remarks "squash" Dr. Porter for his temerity in defending such a baneful habit. Even the local M.P.'s took up the cry, and interspersed remarks on smoking in their political arguments. Of course, after all this stir, Dr. Porter had to publish his reply, which had one good effect at any rate—it cooled down the ardour of those who are ever ready to "rush into print" on the smallest provocation.

School of Pharmacy Fund.—We referred last week to the new scheme which the Council of the Sheffield Pharmaceutical and Chemical Society has formulated for the purpose of making the School of Pharmacy connected with it self-supporting. A step further has been made by the issue of a circular to all interested, in which it is stated that "the society is unable alone to bear the whole burden of an educational establishment which admits students from all ranks of society, whether connected with the trade or not, who thereby enjoy great advantages at very small cost." The appeal for "donations or subscriptions" is, therefore, addressed to a goodly number; and as an inducement to liberality the following list of promises is appended:—Messrs. Cubley & Preston, 2*l.* 2*s.*; Mr. Bradwall, 1*l.* 1*s.*; Mr. Dutton, 1*l.* 1*s.*; Mr. Ellinor, 2*l.* 2*s.*; Mr. Fox, 1*l.* 1*s.*; Mr. Furness, 1*l.* 1*s.*; Mr. Learoyd, 2*l.* 2*s.*; Mr. Maxey, 1*l.* 1*s.*; Mr. Morrison, 1*l.* 1*s.*; Mr. Newsholme, 5*l.* 5*s.*; Mr. Ward, 2*l.* 2*s.* Further contributions may be sent to Mr. C. O. Morrison, hon. sec., 137 West Street, or to the hon. treasurer, Mr. G. T. W. Newsholme, 74 Market Place, Sheffield.

IRELAND.

Up or Down?—A druggist in Belfast has given up drugs and taken to the upholstering business.

From Drugs to Stout.—Messrs. Guinness, the XXX manufacturers, have taken the shop occupied a considerable length of time ago by Mr. Kingsmill, druggist, at 64 James's Street.

Educational.—Dublin pharmaceutical students should join the class on volumetric analysis, which will be held this month in the Technical School, Kevin Street. Suitable apparatus of the most approved kind will be provided, Mr. Leapa will teach, and the fee is merely nominal.

Terrible Explosion of Hydrogen Gas.—On Monday evening a terrible explosion occurred in Dublin, the result of which was the instantaneous death of a gentleman of high position in the city. The victim of the catastrophe was Mr. Thomas Bewley, the senior partner of Messrs. Bewley, Webb & Co., shipbuilders and manufacturers. The firm has a patent for the manufacture of hydrogen gas, which was used for lighting country mansions, and it was the custom of the deceased to keep this gas stored in his office. On Monday afternoon, about four o'clock, he was seen by some of his employés removing one of the iron bottles containing the gas from the office to the shop adjoining, where he left it in a place of safety. He then went back for another, and when he had reached the top of the stairs between the two rooms, on his return, a fearful explosion took place. When the confusion had abated the awful nature of the occurrence was seen. Mr. Bewley was found lying at the top of the staircase, horribly mutilated, and quite dead. His left arm and portions of his side and face had been blown away, and his body was gashed and torn in a fearful manner. Over the walls and ceiling which remained flesh and blood were spattered in a ghastly and sickening manner, while some time after the explosion a hand, torn and bloody, was found in an adjoining room. Part of the iron bottle which had contained the gas was subsequently picked up a considerable distance away. The deceased was 46 years of age.

Chemists and Druggists' Association of Ireland.—A meeting of the Dublin branch of this Association was held in the Central Hall, Westmoreland Street, on January 24, for the purpose of forming an association of chemists and druggists. There were between eighty and one hundred present, amongst whom were Messrs. Boyd, Johnston, Hanson, White, Moore, Murray, Smith, Middleton, Hewitt, Maxwell, Faris, Browne, Spencer, Willis, Darcy, Scarlett, Kirk, Dixey, Ervine, Reynolds, and Holmes. The chair was taken by Mr. McNeight, of the firm of Hugh Moore & Co. After a substantial tea had been partaken of the chairman said he was glad to see so large an attendance, as it showed the young men in the business took an interest in promoting the objects of the association. He thought it was absolutely necessary that they should bind themselves together, determined to preserve their rights. The secretary read the report of the committee, which set out the steps that had been taken in connection with the Pharmacy Act Amendment Bill to protect the members of the association. A common interest existed between the Pharmaceutical Society and the Chemists and Druggists' Association, and they ought to become a united body. The treasurer's report, which showed a balance in hand of 7*l.* 14*s.* 9*d.*, was adopted on the motion of Mr. Moore, seconded by Mr. Maxwell. From the report and treasurer's statement it appeared that the Association had only been in existence for five months, and that it had seventy-one subscribers. Mr. Middleton proposed, "That the best thanks of the society be given to the committee for their exertions on behalf of the society." Mr. Boyd said that the society wished to work hand in hand with the Pharmaceutical Society, as pharmaceutical chemists and chemists and druggists had a common interest. Mr. White proposed, "That the society be permanently constituted." Mr. Curran seconded the resolution, which was passed unanimously. The following were appointed on the committee:—Messrs. McNeight, Brooks, Boyd, White, Hanson, Johnston, Dublin; Healy, Drogheda; White, Waterford; and Halliday, Limerick. During the evening a telegram was received from the North of Ireland Chemists and Druggists' Association, wishing the meeting might be successful. A number of rules for the regulation of the association were submitted to the meeting and adopted, and the proceedings closed with a hearty vote of thanks to the chairman.

SCOTLAND.

Dundee.

The Edinburgh Drug Store Company announce by poster on the windows of their new store in the Cowgate here that they will open shortly. They offer drugs, &c., of "guaranteed quality" at wholesale prices, and are to dispense all prescriptions at enormous reduction in price, ranging "from 20 to 100 per cent." At 100 per cent. reduction they are perfectly safe from competition. None but philanthropists will attempt to beat that.

Edinburgh.

Mr. Michael Carteighe, President of the Pharmaceutical Society, paid a visit to this city last week during the meeting of the Board of Examiners for Scotland, which he attended.

The Highland and Agricultural Society have spent many thousands of pounds during the past few years in experiments conducted at their farm under the supervision of a chemist of high repute. The Society have now come to the conclusion that the results are disappointing, and are to give up the attempt to conduct farming on scientific principles.

Royal Public Dispensary.—At the annual meeting of this institution held last Saturday, it was reported that in connection with the formation and furnishing of a new laboratory 500*l.* had been expended, thus leaving a large balance of expenditure for the year. The report stated further that the fees to be received each year from the students of pharmacy and dispensing might by degrees reduce this balance, but it was hoped that the support given by subscribers would be fully maintained. The institution has for many years done excellent work in providing medical attendance for the sick, and within the past few years has provided through its chemist, Mr. William Duncan, an educational element which was much needed in Edinburgh.

It was owing to the rapid growth of the pharmacy classes that the new laboratory became necessary.

GLASGOW.

FACTS IN FIGURES.—Of a verity Glasgow is the most "doctored" city in Europe. From an analysis of the directory we arrive at the undernoted inspiring results. Of about 260 drug shops in the city and suburbs not fewer than 160 are openly owned by medical men, while an additional forty may be credited to Fellows of the Faculty of Physicians and Surgeons, who by the code of their order are supposed to be forbidden to keep shops, but easily evade the veto by calling their places "surgeries." There is thus left for the legitimate druggist a grand residue of sixty "pharmacies." To put it otherwise, taking the population of Glasgow at 755,250 (the most recent computation), this gives us the proportion of doctors' shops as 1 to 3,776, and of druggists' shops as 1 to 12,554 of the population.

MR. CARTEIGHE was in Edinburgh last week. We here, writes our correspondent, are surprised that he did not give us a visit, and so dispel the rumour that since a certain meeting in Glasgow nearly two years ago, and the memorial springing from it, our "only President," Spalding-like, does not like Glasgow. It is no doubt exceedingly exasperating to the very superior persons at Bloomsbury Square that a pack of "Glasgow bodies" should have the temerity to challenge their superlative wisdom in seeking to pass a law which would prevent the druggist from employing, while it would permit the doctor to employ, unqualified assistants; and would compel every apprentice to give a regulation number of turns at some education crank, certified by the Council to be in good working order, before he can come up for examination. The feeling is as strong here as it is elsewhere, that if the princes of pharmacy, who speak loftily of it as a profession, had a true conception of the drudgery and strain of small businesses, they would not be quite so enamoured of the curriculum as they are at present.

FRENCH PHARMACEUTICAL NEWS.

(*From our Paris Correspondent.*)

PROFESSOR G. BOUCHARDAT is preparing the 28th edition of his father's well-known formulary, the "Formulaire Magistral de A. Bouchardat." The volume is soon to be published.

D.P.H.ENG., the new medical suffix, will be a boon for THE CHEMIST AND DRUGGIST'S French correspondents. Hitherto when they had to speak of "Ecoles de Santé," they felt obliged to use either the French term or some roundabout expression, both unsatisfactory alternatives. Now they may bravely call such institutions "schools of health.',

THE PARIS SEWAGE QUESTION still tarries before the Senate. At a second reading of the Bill the proportion was maintained, against opponents, of 40,000 cubic metres of water to the hectare (2½ acres) of land. M. Léon Say tried to introduce a provision that "before all irrigation with non-sterilised sewage-water, judicial inquiry should be made among all interested"; but the amendment was lost, as it was shown that "sterilised" would be taken to mean sewage heated to 110° C., and all inquiries would result in prohibition. Finally the word "purified" was substituted for sterilised, and all reference to judicial inquiry rejected.

PARIS HOSPITAL ECONOMY.—If the Opposition papers are to be believed, many leaks exist in the Assistance-Publique management. The following instance is quoted. A very good old man, who had seen better days, was recently in search of some easy means of living. Being well connected with some of our municipal magnates, he readily obtained the position of *économe* (treasurer) to a hospital, as yet unbuilt, but the corner-stone of which is soon to be laid. For a while he was contented, and well he might be, with a yearly salary of 4,000f. and no work; but the other day, on reading the regulations, he saw treasurers were entitled to either lodgings or an indemnity. The hospital not being built, he could not of course get the lodgings, but he obtained in place, on presenting his claim, a further 1,200f. as an indemnity.

NO DEPOSIT, NO SAMPLE.—Grawitz, the patentee of an aniline-black dyeing process, applied in 1887 to the Lyons court for an order authorising him to seize samples of the dyeing-baths used by Decroix, of Villefranche, as the processes used by D. were, G. claimed, infringements of his (Grawitz) patent. The Lyons court, before which the case came up after the Villefranche courts had been resorted to, held that no sample from a dyeing-bath could be seized unless Grawitz first deposited 25,000f. to indemnify Decroix against possible damages. The Cour de Cassation, appealed to as a last resort, has confirmed the judgment of the Lyons court. It would be too convenient indeed to thus levy specimens right and left from the dyeing-vats of rival establishments.

CENTRALISING THE PUBLIC HEALTH SERVICE.—When, on January 5, a Presidential decree was issued, directing that all the hygiene committees shall henceforth be connected with the Ministry of the Interior, but few attached much importance to the move, taking it to be one of those meaningless shiftings common to politics in France and elsewhere. But it now turns out the step has deeper significance. From a communication read by Dr. Dubrisay before the Paris Society of Medicine, it appears hygiene committees have been for years praying for a better general organisation, like that of England, the United States, or Germany for instance. The local committees—corresponding to boards of health elsewhere—have in France been acting almost independently, some being connected with the Ministry of the Interior, others with the Ministry of Commerce, and others, again, with different administrations. This scattering has been quite detrimental, and the new decree, concentrating in the Interior the direction of all the hygiene committees and the hospital and asylum service, is expected to have most beneficial consequences for the service and public health in general. All hygiene committees must, according to law, have one or more pharmacists among their members.

PASTEUR, it is said, intends to resign his position as one of the perpetual secretaries of the Academy of Sciences. The learned body, it may here be explained, has two such officers, one representing the natural sciences, and the other the mathematical. Usually the two secretaries officiate alternately, but for quite a while past, although present at most of the meetings, M. Pasteur has been prevented by failing voice from taking an active part in the transactions, and left all the work on the shoulders of M. Bertrand, who stands for the mathematical side of the society. As the office is not only a laborious but also an important one in directing the proceedings, it is probably felt that natural sciences should no longer remain unrepresented, and M. Bertrand is entitled to needed relief. Hence the decision alluded to, although nothing so far has transpired officially. Of course, possible successors are already spoken of, and M. Berthelot, the former Minister of Public Instruction, and professor at the College of Pharmacy, is considered to stand a good chance for the honourable position.

A NEW CHART OF SOLUBILITIES.—Every chemist is no doubt familiar with graphic tables of solubilities, in which a curve represents the quantities of each substance dissolved by water at different temperatures. Vertical lines stand for degrees of heat, and horizontal for the amount of substance soluble in a given quantity of menstruum. At the Academy of Sciences meeting of January 28 M. Cornu read a communication sent by M. Etard, which likely will considerably alter the appearance of these customary chemical graphics. He keeps using the vertical lines for temperatures, but the horizontal are used, not for absolute quantities, but for the proportions of the substance to the solvent. This very slight change causes singular and unexpected results. Instead of curves as formerly straight lines are obtained, generally simple for most substances, but occasionally complex, although never assuming the geometrical character of curves. On following up the determinations to high temperatures under pressure, or to the melting point of anhydrous salts—whereupon water equals zero—the same unbending straight line was the resulting graphic. Next week's *Comptes Rendus* will contain the paper in full.

Pharmaceutical Society of Great Britain.

PRELIMINARY EXAMINATION.

At a meeting of the Board of Examiners for England and Wales, held on Friday, January 25, certificates in lieu of the Society's examination were received from the following:—

Banks, Edwd. H. H., Falmouth
Bush, William Henry, London
Clegg, Alfred Joseph, Wantage
Scott, James Hugill, Penrith
Steele, B. D., Weston-super-Mare

The report of the College of Preceptors on the examination held on January 8 was received. Three hundred and fifteen candidates had presented themselves for examination, of whom one hundred and fifty-nine had failed. The following one hundred and fifty-six passed, and the Registrar was authorised to place their names upon the register of apprentices or students:—

Adams, T. G., Newcastle-on-Tyne
Allen, Samuel Joseph, Leicester
Anstey, Samuel, London
Armitage, Thomas, New Shildon
Armstrong, T., Bridge of Allan
Atkin, Royal Hy. A., Morecambe
Beaton, Edward, Dufftown
Belcher, A. J., Birmingham
Benjamin, J., Ystrad Meurig
Bentley, J. T., Cullingworth
Besley, E. C., Exeter
Bienvenu, S. G., Andover
Blakeley, Leonard, Otley
Blakey, George, Gateshead
Bostock, John, Wrexham
Boyd, Arthur Milne, Leicester
Boyce, H. G., Downham Market
Bridges, Herbert, Norwich
Brummitt, Arthur, Dewsbury
Bugden, Arthur, Bicester
Bunting, W. H., Ryton-on-Tyne
Calvert, John, Bradford
Campbell, John, Kilcreggan
Campkin, B. S., Cambridge
Carmichael, John, Kinross
Carr, E. L., Cambridge
Chalmers, George, Huntly
Clark, P. S., St. Andrews
Clark, Sydney, Bury St. Edmunds
Clarke, Arthur Ernest, Croydon
Clement, Howell Edwin, Plymouth
Collett, Archd. R. M., Gloucester
Couplaud, Arthur, Buxton
Coward, Miles, Keswick
Cowley, Thos. Norbert B., Ross
Cross, Herbert Francis, Cambridge
Cruickshank, George, Aberdeen
David, Idwal, Cardiff
Duncan, George, Fife-Keith
Edward, William Lee, Edinburgh
Edwards, D. Powell, Bishop's Castle
Edwards, Lewis, Llangollen
Fairbairn, Jas. Hume, Edinburgh
Falconer, John, Lanark
Feltwell, J. Greenwood, London
Fennellow, George William, Louth
Firth, Fred., Wakefield
Flood, Frank, Woburn
Fox, Frederick Harry, Lincoln
Gibson, Mary, London
Gillam, John Duke, Brechin
Gilmour, William, jun., Edinburgh
Gould, Charles Norman, Exeter
Greig, Fred. Robert, Laurencekirk
Hackshaw, Harry Roche, London
Hardman, William Robert, Hull
Harris, Robert H., Stoke-on-Trent
Hewson, Thomas, Louth
Highton, Edwin, Blackburn
Horsburgh, James David, Grange
Howlett, Robert, London
Howling, Abram Edward, Leith
Hughes, Robert F., Pittenweem
Hunter, Stanley, Liverpool
Huntsman, Charles Sidney, London
Ingham, James, Cleckheaton
Ironside, James Francis, Aberdeen
Jackson, Henry, Witney
James, Clarence H., Cheltenham
Jameson, William, Edinburgh
Jenkin, Arthur Hy., Southampton
Johnson, Alfred, Liverpool
Jones, Arthur Scott, Guernsey
Jones, Henry Elmes, Lampeter
Jones, Jane Ellen, Birmingham
Jones, J. Lloyd, Chester
Jones, Thomas O., Connah's Quay
Kenion, Walter, Yeadon
Kitching, Arthur S., Beckenham
Kitson, Edward J., jun., Worcester
Lakeman, Stephen, Melksham
Lawton, Tom, Bournemouth
Lee, Frank, Rhyl
Lyon, Harold, Chatteris
McDonald, William, Inverkeithing
Macintosh, Robert, Grantown
Main, John Alex. A., Edinburgh
Marsh, Fredk. Wm., Orewkerne
Mason, Herbert, Wigan
Martin, Arthur B., Lowdham
Maunder, John H., Teignmouth
Miller, Arthur, Bassenthwaite
Moody, Douglas, Montrose
Morris, Sidney David, Llanelly
Mowat, Edward, Edinburgh
Neville, Robert Alfred, Tetbury
Nicholls, Ernest Albert, London
Niven, John, Kilmarnock
Norman, J. T., Cark-in-Cartmel
Oatley, Frederick, Chorley
Owen, David, Flint
Parkinson, John, Colne
Parsons, Arthur, Merthyr
Pattinson, Thomas, Guisborough
Peck, Frederick, Hedon
Pensotti, Chas. B., Kidderminster
Pilkington, J. E., Clayton-le-Moors
Platt, Wm. E., Ellesmere Port
Price, Frederick Wm., Chirk
Price, Rhys J., Llanwrtyd Wells
Reakes, Chas. John, Wingham
Rive, Percy, Jersey
Roberts, Robert Randall, Chester
Robinson, James Fredk., London
Robertson, James, Edinburgh
Rowell, T. B., Newcastle-upon-Tyne
Royston, Jno. C. W., Hoyland
Ruxton, James, Arbroath
Sclater, John George, Edinburgh
Sharples, William, St. Helens
Shaw, Thomas, Wigan
Smith, Harry, Huddersfield
Smith, Herbert, Workington
Snell, Wm. Kennard, Okehampton
Speechly, Guy A., Bishop Stortford
Spencer, William, Birmingham
Stead, Charles, Heckmondwike
Stephen, George, Huntly
Sumpter, Arthur G., Cambridge
Thomas, Wm. Oliver, Llwynhendy
Tomson, Stanley Edgar, Hastings
Tuach, William, Inverness
Twigg, John George, Lincoln
Tyack, Roland T., Wells, Somerset
Wale, Arthur, Wallington
Walker, John, Buxton
Wallace, Alex. Profelt, Aberdeen
Watkins, William, Pentyrch
Wheeldon, Richard H., Marple
White, John Wm., Stony Stratford
Whitney, Alfred, Walsall
Whitehead, William, Bury
Wilkie, Adam Laidlaw, Galashiels
Williams, David, Treherbert
Williams, Harry G., Sheffield
Williams, Hugh F., Llanfyllin
Williams, John, Carmarthen
Williams, Rowland H., Holyhead
Wilson, James, Aberdeen
Wilson, Richard Henry, Elton
Wilson, William Wood, Glasgow
Wood, Robert, Milton Bridge
Woodhouse, F. R., Kirkby Lonsdale
Woodman, Thos., Newcastle-upon-Tyne
Wright, Edward, Peterborough
Wyper, William, Hamilton

EXAMINATIONS IN EDINBURGH.

The Board of Examiners for Scotland met in Edinburgh on January 16, 17, 22, 23, and 24. The following were the successful candidates:—

Major Examination.

(For registration as pharmaceutical chemists.)

Clague, Thomas Maltby, Newcastle-on-Tyne
Clarke, James, Aberdeen

Minor Examination.

(For registration as chemists and druggists.)

Ainsworth, Benjamin, Blackburn
Aitken, Thos. Gebbie, Southampton
Alexander, William Maxwell, Kelso
Brown, James Joseph, Perth
Carrie, Robert Smith, Belfast
Clark, Alexander John, Edinburgh
Davidson, Jas., Gateshead-on-Tyne
Dinweodie, John H., Edinburgh
Donald, Andrew, Glasgow
Foster, Edgar Denney, Belfast
Gray, John Johnston, Edinburgh
Grimshaw, William H., Blackburn
Harper, William, Edinburgh
Harrison, Thomas Henry, Greenock
Hartill, Ambrose, Coseley
Henderson, Henry A. W., Ilkley
Ireland, William R., Glasgow
Jewell, Alfred Furniss, Liverpool
Johnstone, William G., Edinburgh
Kennedy, Alexander, Glasgow
Lamont, William, Edinburgh
MacAulay, Donald, Belfast
M'Ivor, Robert Alexander, Newcastle-on-Tyne
M'Kay, James Alex., Edinburgh
MacKenzie, Stewart, Musselburgh
MacLeod, Lewis, Edinburgh
Macpherson, William, Dufftown
Noak, Walter F., Edinburgh
Ogg, George, Edinburgh
Owen, Robert Godfrey, Birkenhead
Robertson, William G., Jedburgh
Robertson, David S., Rutherglen
Smith, William John, Newcastle-on-Tyne
Smith, William M., Edinburgh
Stewart, Alexander R., Hamilton
Stewart, Alexander S., Edinburgh
Whitelaw, Andrew, Greenock
Whitfield, Allison, Sunderland

Modified Examination.

Hodge, John, Dundee

NORTH BRITISH BRANCH.

An evening meeting was held in Edinburgh on Wednesday at half-past eight o'clock, Mr. William Gilmour, F.R.S.E., chairman of the executive, presiding. The first paper read was on

An Improved Chloroform Liniment.

By Peter Boa.

The author said he had had a complaint regarding the thinness of the Pharmacopœia chloroform liniment. It was said to run away from the part to which it was applied, and as it had to be used freely it frequently soiled the clothes. To remedy this objection soft paraffin had been used instead of camphor liniment; the paraffin, being soluble in chloroform, suited well. The liniment could be made thick enough to send out in a wide-mouthed bottle, and could be spread over the parts with the finger and then rubbed in. Experimenting further, Mr. Boa found that by using instead of camphor liniment an equivalent quantity of soft paraffin a liniment was obtained which would pour easily, but was of such a consistence that it did not run when applied. The formula he proposed was as follows:—

Camphor	1 oz.
Chloroform	5 fl. oz.
Soft paraffin, sufficient to produce ..	10 „

The camphor to be dissolved in the chloroform, the soft paraffin added, and the three shaken together.

There is no advantage in melting the paraffin before adding it to the chloroform and camphor.

It had been noticed by several observers that chloroform liniment of the Pharmacopœia became paler in colour if kept some time, and the oil apparently became rancid, as it smelt more strongly. There always was an oily smell after using the B.P. liniment, no matter how good the olive oil employed might be. In the case of a liniment made with soft paraffin there was no odour whatever left when the chloroform and camphor had evaporated. The latter was quite as suitable as the former for mixing with other liniments. Samples were shown with opium liniment, belladonna liniment, turpentine, &c. When shaken up such mixtures did not separate so readily as corresponding mixtures with the B.P. liniment, on account of the increased thickness. Liniment made with paraffin was not so brilliant in appearance as the official liniment. From observation, however, he was convinced that it was in practice quite as efficient, while it possessed the advantages of being more easily explained, less wasteful, and leaving no oily smell after use.

In the discussion on this paper Mr. John Nesbit said that the liniment, as suggested by Mr. Boa, appeared to be pharmaceutically perfect, but he was not so sure about it therapeutically, for the mineral fat might not be absorbed so readily as a vegetable oil. That was a point which might be looked into. Mr. George Lunan suggested a trial of anhydrous lanoline, and Mr. Smith corroborated the statement that the official liniment became rancid. He had noticed that. Mr. C. A. Macpherson thought the paraffin would keep the chloroform longer in contact with the skin, so that the alteration would be advantageous. The chairman corroborated what Mr. Nesbit had said regarding the probable difference of absorption between the two preparations, and pointed out that camphor liniment did not become rancid, so that the change in chloroform liniment must be due in some way to the chloroform. Mr. Rutherford Hill thought that superficial stimulation by the chloroform on rubbing was the object of the liniment, and if that was so the suggestion would be an improvement. Mr. Boa, in replying, said that experience showed the paraffin liniment was very efficient.

The next paper read was on

Extract of Nux Vomica.

By William Duncan.

This new standardised extract was, he said, as a matter of common experience, of exceedingly variable consistence. When kept it became hard owing to the loss of moisture, and this, notwithstanding the statement of the originators that it was hygroscopic. Three years' practical experience of the extract showed that this was a fallacy; it gradually lost moisture and increased accordingly in alkaloidal strength. In proof of this he gave the results of an examination of one sample, which, when fresh, contained 14·9 per cent. of alkaloids, and after six weeks' keeping, under the best conditions possible in the pharmacy, it yielded 15·85 per cent., having during that period lost about 5 per cent. of moisture. The extract contained as a rule from 13 to 20 per cent. of moisture.

The increase in strength was not alarming, he thought, but in a standardised extract it was not a very satisfactory thing. He suggested that the extract should be dried, powdered, and some inert substance, like milk sugar, added to it in equal amount to the moisture lost. Formerly the amount of oil in the extract was objectionable, but the menstruum now directed by the Pharmacopœia got rid of this. He submitted a sample of an "abstract" made according to his suggestion. This was passed round, and appeared to the meeting to be all right. In concluding, the author of this paper referred to the official method for estimating the percentage of alkaloids in the extract. It is directed that the ammoniacal liquid should be agitated with half an ounce of chloroform. This, he had found, was insufficient, but with three portions of 3, 2, and 1 drachms he had quite exhausted the fluid of the contained alkaloids.

Mr. D. B. Dott, commenting on the latter suggestion, said that one washing with the extracting fluid was certainly insufficient in this or any similar process; but the fact remained that, following the same method in all cases, the results would be constant. Mr. Boa's experience was that the extract did harden, and Mr. Macpherson threw out the suggestion that a liquid extract containing glycerine would be useful. Mr. Nesbit considered the present extract to be an improvement, and that Mr. Duncan's suggestion carried the improvement further. A dry, powdered extract would be very useful for dispensing; but Mr. Lunan added (following Mr. Nesbit) it would not do for the tincture; a liquid extract would be better for that purpose. Mr. Hill confirmed Mr. Duncan's remarks regarding the hardening of the extract and the imperfection of the estimation process. The object of standardising was to give a guide to medical men as to the real alkaloidal strength of the preparation, and as the Pharmacopœia assay process showed this imperfectly, it was defective. Mr. Duncan's washing process would rectify that.

The Chairman pointed out that the oil exuded, and gave the idea that the extract was hygroscopic. If this oil was not removed, and the extract was made into tincture, the latter became opalescent.

Mr. Duncan then replied, remarking that a fluid extract would not be useful for pills, and it was mostly wanted for that purpose. Speaking on the United States Pharmacopœia abstract, he said it became lumpy because of the oil it contained—the wrong spirit being used in the process.

The last paper read was on

The American Tinctura Quillaiæ.

By J. Rutherford Hill.

The tincture of the National Formulary was referred to. During the process by which this is made, the soap bark is boiled with the menstruum. For a substance containing a glucoside, this process seems unscientific, and, as Mr. Boa has shown, saponin is under these circumstances changed. Mr. Hill had prepared two tinctures, one by the American process, the other by cold maceration and percolation. These were examined, and it was found that the tincture prepared in the cold yielded 4·28 per cent. of extract, and 2·63 per cent. of saponin. The American tincture gave 4·02 per cent. of extract, and 2·30 per cent. of saponin. A further percolation of the marc of the first tincture indicated that it was practically exhausted, but it was found that the American was incomplete. There was a popular impression, he said, that when heat was used the tincture froths and emulsifies better. Results show, however, that this is fallacious. On the whole the American process is tedious, the cold process shorter, and he suggested macerating and percolating with mixed spirit and water equal to the strength of proof spirit. The American strength of spirit is too low.

Commenting on this paper, Mr. Boa said that he had found proof spirit the best strength. It exhausted the bark in the cold, and retained what it took into solution. Mr. Macpherson thought powdering was unnecessary, it simply lost material; small chips were good enough. He referred to the numerous formulæ for saponin, and, replying to this, Mr. Dott said that it was almost impossible to get constant formulæ for such a substance as saponin. It was, however, practically unimportant. He threw out the suggestion that the polarimeter might usefully indicate the percentage of saponin and glucose.

Mr. Hill then replied, and afterwards made some remarks upon the recent additions to the museum which were exhibited.

Discovery in Cinchona-Planting.—A rather important discovery has been accidentally made at the Darjeeling cinchona plantations in British India. Believing that the value of the bark for purposes of extracting quinine decreases with the age of the trees, it has been the custom to cut down old trees and allow the land to lapse into jungle. A piece of land planted with cinchonas was treated in this way about ten years ago, sincewhen a dense-jungle growth sprang up. On examination this land was found to have improved very much, having been enriched by the deposit of the fallen leaves from the jungle trees. It has now been cleared and replanted with cinchonas, which look quite as healthy as those put out in virgin soil. Hitherto, when it was desired to extend the plantation, new areas had to be taken up, the abandoned ones being allowed to lapse into jungle; and, as the area of land suitable for cinchona cultivation is limited in those parts, this discovery will prove of great value.

NORTH OF IRELAND CHEMISTS AND DRUGGISTS' ASSOCIATION.

Annual Meeting at Belfast.

THE first annual meeting of the North of Ireland Chemists and Druggists' Association was held on Tuesday evening in the Y.M.C.A. Hall, Wellington Place. The chair was occupied by the ex-Mayor, Sir James H. Haslett. There was a very large representation of the trade, including many from the outlying Ulster towns. After tea had been served by a number of ladies,

Sir James H. Haslett said his first duty on behalf of the Association was to bid them all welcome to that meeting. What he saw that night augured well to his mind for the future of their Association. If that was the infancy of the Association he did not know what its manhood would be. The year just closed was an eventful one for their Society. They were at the outset threatened with extinction, but they succeeded in living through it all, and they had received the sympathy and support of, he might say, the three kingdoms, with the result that those who threatened to extinguish them were obliged to confess that they were worthy of recognition. (Applause.) It had been alleged that they were an uneducated body. If they were so, they had at least the power to speak and the capacity to place their case before the intelligent public. What was more, too, they had sufficient education to command the respect and unqualified approbation of the public. (Applause.) There never was a time when education was so necessary in every department of life. It was especially necessary in connection with their trade, and in asking that they should be recognised, the Society did not seek for recognition except where there was the qualification and the intelligence required in the discharge of the business. (Hear, hear.) The education of the youth of the North of Ireland would compare favourably now with any previous time, and he was sure they would all endeavour to achieve that standard which would enable them to be complete masters of the work entrusted to them.

The Secretary (Mr. W. J. Rankin) then read the annual report. It stated that the membership reached a total of 115, and that nominations were coming in each month, and impressed upon the younger members of the trade the necessity of joining, as the acquaintanceship thus formed would have a lasting effect. It further detailed the attitude of the committee in reference to the Bill introduced last session in the House of Lords, and acknowledged in the most grateful manner the services of members of Parliament of all shades of politics in securing such a compromise with the Pharmaceutical Society as resulted in the acceptance of amendments which brought the Bill into harmony with the views of the trading community. The lateness of the autumn session necessitated the withdrawal of the Bill, and it remained to say what Parliament would do next session. The committee also thanked the Press for its noble and consistent advocacy of their cause.

The Treasurer (Mr. Gibson) said the total amount received during the year was 169*l.* 10*s.*, and the expenditure amounted to 182*l.* 11*s.*, leaving a small balance against them, which, however, would be wiped out as soon as the annual subscriptions now due began to come in. The bulk of their expenditure, he added, was in deputations to London in reference to the Bill promoted by the Pharmaceutical Council.

Mr. W. J. Salters formally moved the adoption of the report and statement of accounts.

Mr. Turkington, in seconding the motion, said as a member of the Executive Committee he considered that the trade of Ireland owed a great debt of gratitude to the Society, and he thought he might add that the trade of Ireland had a right to congratulate itself on its present position. He trusted the time was near at hand when they would have union instead of strife in the camp. (Applause.) There was one unfailing law, and that was that a house in which there was dissension contained the seeds of destruction.

The motion was adopted, and

Mr. Rankin said that voting-papers had been sent out to the members for the election of a committee for 1889, and the returns gave the following selections:—Sir James H. Haslett, Messrs. Thomas McMullen, S. Clotworthy, John Clarke, S. Gibson, S. Turkington, Wm. Doig, J. H. Shaw, Jacob Walsh, R. Campbell, Wm. J. Salters, James Richardson, John Cairns, W. J. Rankin, J. D. Carse, F. Lindsay, W. J. Gibson, S. McDowell, and Wm. White.

Mr. John Campbell moved that Sir James Haslett be elected president for the ensuing year, Mr. Clotworthy, vice-president, Mr. Rankin, secretary, and Mr. Gibson, treasurer. He spoke in highly complimentary terms of the manner in which these gentlemen had discharged their duties last year, and urged that the office-bearers now conducting the business of the Society should be allowed to remain at the helm for another year. (Applause.)

Mr. Jamison seconded the motion, and it passed.

The Chairman, in a short address, impressed upon the meeting the necessity of increasing the membership, and, directing special observations to the young men, asked that they would make a sacrifice occasionally in order to obtain the trade journals. In their free library and reading-room they had plenty of general literature, and in the trade journals they would find much wholesome matter which would be useful to them in the responsible business in which they were engaged; and he mentioned that it was proposed to increase the Society's subscription, so that the secretary might be able to forward free copies of the trade journals to the members. This was a move in the right direction, and he expected that it would be fruitful of good results.

Mr. Rankin then moved that the name of the Society in Rule 1. be changed to that of "The Chemists and Druggists Society of Ireland." This, he said, would bring into the body many who probably remained outside in expectation of some broader lines being observed than before, and believed from what they had done last year that they would have the earnest support of all the Irish trades in their future efforts on behalf of so important a section of public servants.

Mr. Cairns seconded the motion, which was agreed to.

Music and readings followed, and at the termination of the programme a vote of thanks was passed to the tea-makers and the ladies and gentlemen assisting in the musical and elocutionary items; and also to Mr. S. Gibson, who had furnished plants, &c., for the decoration of the hall. Hearty thanks were also voted to the chairman for his kindness in presiding, and for his marked interest in the Association at all times.

Trade Notes.

Messrs. Thomas Symington & Co., Beaverbank Works, Edinburgh, have just received cable advice that they have been awarded Three Gold Medals at the Melbourne International Exhibition, for the purity and excellence of their "Edinburgh Coffee Essences," preserved "Coffee and Milk," and "Perfect Malt Extract."

Messrs. Burroughs, Wellcome & Co. have brought out phenacetin tabloids in which the taste of the drug is masked by a very slight addition of saccharin. Messrs. Burroughs, Wellcome & Co. claim that they were the first to combine saccharin with drugs in tabloid form, but they say they have found that saccharin is not suitable for masking the taste of all drugs, but, having studied the matter carefully, they utilise it only where it is practicable.

Van Houten's Cocoa has come in for a valuable advertisement in New Zealand. A telegraph lineman of Rotorua lost his way and got on roads and volcanic ash fields utterly unknown to him. Many searches were made for him, and one party met him coming home after he had been gone six days. He had lost all his provisions on the morning of the second day, with the exception of a tin of Van Houten's cocoa. But when he re-appeared he was in wonderfully good form. From his own statements, the comfort and sustaining powers of this cocoa are great; in fact it saved his life.

Solution of hyposulphite of soda is preserved by the addition of a "pinch" of salicylic acid to a pint.

Legal Reports.

Patent Self-opening Tins.

Last week in the Chancery Division of the High Court of Justice, before Mr. Justice Kekewich, Mr. Griffin, of the Albion Works, King's Cross, the patentee of certain self-opening tin cans, brought actions against Mr. Feavor, of Bermondsey, and Messrs. B. Noakes & Co., Spa Road, Bermondsey, for alleged infringement of his patent. Mr. Aston opened the case for the plaintiff, and explained that the plaintiff's invention consisted in using, instead of the old soldered down top to a tin or box, a movable cap or cover which could be easily placed upon the can by pressure from the hands, and almost as easily removed without any cutting or hammering, by the employment of any small lever, as a penknife, or even a coin of sufficient size—such as a penny or two-shilling piece. In spite of the cap being so easily removable, when the lid of the tin was pressed firmly on it was almost impossible to get at its contents unless the lever were used. The plaintiff's patent consisted in making the top end of the can strong enough, by means of bending over the tin or by inserting a strengthening wire, to form a fulcrum so as to support the lever that was to be used in prizing open the lid; and in so making the lid itself as to have a flange extending from the mouth of the can towards the fulcrum, so as to enable the lever to be inserted to give it the necessary purchase for prizing purposes. The first witness called was Mr. P. F. Nursey, who gave technical evidence as to the value and novelty of the plaintiff's invention. But on cross-examination this witness admitted that a previous patent taken out in America by Messrs. Ivan & Walsh, and described in this country in publications issued by Messrs. Gliss & Co., of Brooklyn, and by Messrs. Shoolbred & Co., of Tottenham Court Road, was identical with the plaintiff's invention, with the exception that Walsh's had no taper in the lid, whereas the plaintiff's had. Upon this his lordship stopped the case, observing that the American patent was a clear anticipation, and he accordingly dismissed the actions with costs on the higher scale.

Mineral Waters and the Merchandise Marks Act.

The carman Rogers, charged at the Dalston Police Court with having stolen bottles and cases belonging to Mr. Thomas Wood, mineral water maker, 430 Hackney Road (as reported last week), appeared again, on January 25 before Mr. Bros, when Mr. Avory, who appeared for the London Bottle Exchange Association, the prosecutors, intimated that he did not think the evidence would justify a prosecution for larceny. Rogers was therefore discharged, and on the application of Mr. Avory a summons against Mr. Burgess, the carman's employer, was granted under the Merchandise Marks Act. Thomas Burgess, mineral water maker, in consequence, appeared before Mr. Bros, on January 30, on a charge that he did knowingly contravene the 2nd section of the Merchandise Marks Act by putting his aërated waters into bottles bearing the name of Thomas Wood, mineral water manufacturer, 430 Hackney Road. Mr. Horace Avory was counsel for the prosecution, and Mr. Young, solicitor, defended. The case excited considerable interest, a large number of mineral water makers being present.

Mr. Avory said the defendant had not only filled bottles bearing another maker's name, but had put these bottles in boxes with Mr. Wood's name branded thereon. There were also goods of other makers in his place. Unless defendant could prove that he had taken reasonable precautions, and that he had no reason to suspect the genuineness of his transaction—in fact, that he had acted innocently in the matter—he was liable under the Act. Defendant undoubtedly on January 15 had in his possession for sale seven dozen bottles bearing the name of Mr. Wood. Bearing in mind that it was an offence for a person to apply a false trade description, defendant would have to show that he used these bottles without intent to defraud.

Mr. Wood having proved the circumstances already detailed, said, in answer to the magistrate, that he belonged to the association, but the defendant did not.

For the defence, Mr. Young submitted that defendant had committed no fraud upon the public.

Mr. Bros: I will allow you to call evidence upon that.

Mr. Young: Each of the four persons whom defendant served knew very well that they were purchasing Burgess's manufacture, because his labels were on the bottles.

(A bottle was produced with "Wood" moulded on it, and a little label on the bottom, "Burgess's Lemon.)

The defendant was sworn, and said he placed the labels on the bottles as stated, because it was more convenient after they were in the boxes. He admitted having been cautioned, and he had promised to tell his workmen about it, but he had not done so.

Mr. Horace Avory said he did not suggest that the waters were sold as Wood's make, but he submitted that the fact that he had not cautioned his men after being himself cautioned was evidence that he had not taken reasonable precautions, to say the least.

Mr. Bros: You suggest he used other people's stock and property to carry on his own business.

Mr. Horace Avory: That is so; but there is the additional fact that he contravened the Act by placing his goods in a cover bearing another maker's name.

Burgess (recalled) did not deny filling the bottle which had been produced, but he pleaded as an excuse that through the illness of his wife he had been obliged to neglect his business.

The case was again adjourned.

Trade-mark Law.—Tower Tea.

An important decision in regard to trade names was given in the Chancery Division of the High Court of Justice on Tuesday, by Mr. Justice North. The case was the Great Tower Street Tea Company *v.* Hedley Smith, and the evidence submitted occupied the Court for 11 days. The question at issue had reference to the use of the title "Tower" as applied to packed teas. The plaintiff company were incorporated by registration in 1879 to take over the business in the sale of packet tea of Messrs. Lough & Walker, of 41 Great Tower Street. They alleged that shortly after that time their tea became known as, and has ever since been recognised as, "Tower Tea." In 1885 they registered two trade-marks—one for tea and coffee, consisting of the design of a tower or castle, with the word "Strength" connected with it and surrounded by the name of the company in a garter; the other simply of the two words "Tower Tea." The defendant is the successor to a tea business carried on, first at Muscovy Court by one Holland, later at Harp Lane. This business was commenced in 1878. Since the action was brought the defendant has moved his packet business to Leadenhall Street and his loose tea business to Fenchurch Street. The words "Tower Tea Company" had been used in connection with the defendant's business by both himself and his predecessors. The plaintiff company attempted to make out that the defendant had either never had, or had lost his right to use, the title "Tower Tea Company," and that he had so used it as to pass his goods off as their goods, and claimed an injunction to restrain his using that style, using the fancy name of "Tower Tea," or passing his goods off as those of the plaintiff company; and the defendant moved to erase from the register of trade-marks the plaintiffs' registered trade-mark of "Tower Tea" on the ground that it was not subject-matter capable of registration within the Patents, Designs, and Trade Marks Act, 1883. It was attempted on behalf of the plaintiffs to bring the mark within marks allowed to be registered as enumerated in section 64, subsection 1 (*c*) of the Act—namely, "A distinctive device, mark, brand, heading, label, ticket, or fancy words not in common use." No objection was taken to the other registered trade-mark of the plaintiffs.

Mr. Aston, Q.C., and Mr. Carpmael appeared for the plaintiffs; and Mr. Napier Higgins, Q.C., and Mr. Solomon for the defendant.

Mr. Justice North, in giving judgment, said it would be most convenient in the first place to deal with the motion. Mr. Carpmael had argued that the expression was a "fancy word" within the meaning of the subsection. Upon this point his lordship cited the definitions of "fancy words" given by the several Lords Justices Cotton, Lindley, and

Lopes in the leading case on the subject ("*Re* Van Duzer's Trade-mark," 34 Ch.D, 623), relating to the word "Melrose" as applied to a "Hair Restorer"; the word "Electric" as applied to "Velveteen," and adopted by Lord Justice Fry in a still more recent case. Lord Justice Cotton said in respect of a fancy word:—"It must be a word which obviously cannot have reference to any description or designation of where the article is made or what its character is. Lord Justice Lopes said:—"I think a word, to be a fancy word, must be obviously meaningless as applied to the article in question." Mr. Justice North considered both from the nature of the case, and the evidence before him as to the use of the word "Tower" in respect to other articles sold in the neighbourhood and other kinds of businesses carried on in the same neighbourhood, the word "Tower" was obviously descriptive; and therefore "Tower Tea" was not a fancy word. The motion, therefore, to have the trade-mark expunged must succeed. As to the action, his Lordship came to the conclusion on the evidence that the defendant and his predecessors had *bonâ-fide* used the trade-mark before the plaintiffs; that he had never used it for the purpose of passing off his goods as those of the plaintiffs; and that, in fact, whatever he might have thought without evidence, the evidence clearly established, to his mind, that the two names were not likely to be confused by purchasers; and he dismissed the action with costs, and allowed costs on the higher scale.

Eno's and Dunn's Trade-marks.—Is "Fruit Salt" a Trade-mark?

Mr. Justice Kay, sitting in the Chancery Division on Thursday, had before him two applications in *re* Eno's trade-marks for "Fruit Salt," and *re* Dunn's trade-marks for "Fruit Salt Baking Powder."

The Attorney-General, Mr. Aston, Q.C., and Mr. John Cutler appeared for Mr. Eno; and Mr. Moulton, Q.C., and Mr. A. Birrell appeared for Mr. G. W. Dunn.

Mr. Aston, on the cases being called on, said he had had a consultation with the learned Attorney-General, and it was thought that the Court might be relieved of the first summons—*re* Eno's trade-marks Nos. 13,060 and 15,604. There was an application to take off the register a trade-mark consisting of the words "Fruit Salt," which were registered and were said to have been an old mark in use prior to 1875. But when the Attorney-General and himself came to consider the matter it turned out that the use of the words "Fruit Salt" before 1875 was simply as the salient part of a label. He was there now to admit that the words "Fruit Salt" were not used as an old mark as the Act required prior to 1875 save and as part of a label. Might he take it that his Lordship would hold, in that state of things, that the words "Fruit Salt" were not the words as registered, and as appeared in the *Trade Marks Journal*?

His Lordship: Then you will take the mark off?

Mr. Aston: That will save the trouble of going into this part of the case.

His Lordship: Then there will be an order for you to take the mark off.

Mr. Aston: The Attorney-General thought it desirable to make this explanation at the outset of the case.

His Lordship: Very well. That gets rid of that matter.

Mr. Moulton said there were two summonses in *re* Dunn's trade-marks for fruit salt baking powder; but the only one which the Court would be troubled with was that which appeared in the *Trade Marks Journal* of February 25, 1887. Mr. Dunn's application was to have that mark registered; but it was opposed by Mr. Eno. He (the learned counsel) could not understand the ground of opposition, because there was not the slightest resemblance between the label which Mr. Dunn sought to register and Eno's.

His Lordship: What do you mean by "fruit salt"?

Mr. Moulton: It is a baking powder.

His Lordship: I have seen advertisements of fruit salt, with pictures of children gathering the fruit salt from the fruit-trees. If that involves a falsehood, I shall have to consider the point, and not in your favour.

Mr. Moulton: That does to a certain extent apply to the trade-mark of Mr. Eno.

His Lordship: But what do you mean by "fruit salt"?

Mr. Moulton: That the powder is made from salts, principally obtained from fruits.

His Lordship: I must have that shown to me.

Mr. Moulton: From the affidavits there is not the slightest suggestion that Dunn's is not properly called "fruit salt baking powder."

His Lordship: There is no evidence that it is.

Mr. Moulton would deal with that point later on. He thought his learned friend would not suggest that there was any resemblance between the two labels.

Mr. Aston: That is not my point.

Mr. Moulton: The question reduces itself to this: Is the label in which Dunn's fruit salt baking powder occurs a proper trade-mark for registration? It was not open to his friend to say that the words were calculated to deceive anyone into the belief that Eno's fruit salt formed an ingredient of the baking powder. His client was in court, and could satisfy his lordship that "fruit salt" was a fair and proper name for the article, and in this way would meet his lordship's suggestion that there was some deception in the words "fruit salt." With regard to the meaning of the words "fruit salt," it was well known that fruits contained a large quantity of salts of a broad class. "Chambers' Encyclopædia," edition 1868, under the title of "Fruits," said that fruits were taken not so much for their material nourishment as for their vegetable salts. Nearly all the tartrates were obtained from fruits, and one of the regular sources of tartrate of potash was the wine vats in which grapes had been pressed. The opposition to Mr. Dunn's application might be put under two heads: First, they claimed to have the right to use the words "fruit salt" as a trade-mark.

His Lordship: That has been given up now.

Mr. Moulton said that was originally claimed, and secondly that "fruit salt" for the baking powder was a misdescription, but from the beginning to the end of the affidavits there was no evidence that Eno's fruit salt, or saline medicines, registered as such, could form part of Dunn's powder. The learned counsel then read affidavits of Mr. Philip Middleton Justice, patent agent, acting for Mr. Dunn. He stated that Mr. Dunn carried on business in Canada, and in June 1887 he (Mr. Dunn) instructed him to apply in this country for registration of the label "Dunn's Fruit Salt Baking Powder" as a trade-mark. Notice having been given to cross-examine, Mr. Justice went into the witness-box.

Cross-examined by Mr. Aston: First knew of Mr. Dunn's use of these words "Fruit Salt" about two years ago. Had frequently seen Eno's fruit salt advertised before 1887, when Dunn consulted him. Eno's labels were familiar to him. In his view Dunn's fruit salt baking powder could not be used for the same purpose as Eno's.

Have you tried it?—No; I should be sorry to. Dunn's powder contains certain proportions of tartaric acid and soda mixed with flour.

In what proportions?

Mr. Moulton submitted that in such a case the witness could not be asked to state the exact proportions of the ingredients. Question overruled.

By Mr. Moulton: Any knowledge as to the manner in which Mr. Dunn made his baking powder was derived from Mr. Dunn himself.

Mr. Moulton then read the affidavit of Mr. William George Dunn, who stated that he had registered in Canada trade-marks in connection with his baking powder. One of these described it as "Dunn's Baking Powder—the Cook's Best Friend," and the other as "Dunn's Fruit Salt Baking Powder." The name he adopted from Brand's "Manual of Chemistry of 1844." He had not adopted the words "Fruit Salt Baking Powder" in order to trench upon Mr. Eno's trade-mark, but because the words formed the true description of the article manufactured by him.

Mr. Dunn was then examined by Mr. Aston. He said he had been manufacturing fruit salt baking powder since late in the year 1885, and gave it that name because it contained fruit salt. The actual title was derived from Brand's "Manual of Chemistry," of 1841, which he had had in his possession for twenty-five years. He had stated in his affidavit that the Manual was dated 1844, but that was a mistake. Brand described the natural salt which existed in our common fruit. He was using in his preparation the bitartrate of potassa, which was the natural salt. The

actual phrase "fruit salt" did not occur in Brand's Manual but the salts of fruit were described. The article in Brand's Manual received his attention first in 1885. Eno's fruit salt was sold largely in Canada, and witness had been acquainted with the preparation for ten or twelve years, though he had never dealt in it.

Under those circumstances do you mean to say that your first knowledge of the term was derived from this book?—It was as regards the baking powder.

Mr. Justice Kay: Did you ever see these two words in combination before you saw them used by Eno?—I cannot say whether I have or not. I have seen a preparation used in Canada, and known as Amor's fruit salt, but I cannot tell which I have seen first.

In further cross-examination, witness said he had advertised in this country, and had commenced supplying fruit salt baking powder in this country, but had at present only sold about a dozen pounds altogether. One letter came asking for "fruit salt," and his son sent a packet of baking powder before he (witne s) saw it. He should have sent it just the same if he had seen the order, because what was ordered was his fruit salt.

In re-examination by Mr. Moulton Mr. Dunn said that bitartrate of potassa, of which the principal source was the salt deposited in wine-vats, was the predominant ingredient of his baking powder. Eno's Fruit Salt might be used as a baking powder, but would not be suitable for that purpose.

Mr. Justice Kay: Now, Mr. Moulton, I call upon you. On this evidence I shall certainly not allow it to be registered, unless you convince me that I must.

Mr. Moulton: On the point that "fruit salt" is a delusive title, my lord?

Mr. Justice Kay: Not at all; but on the point that this combination was suggested to Mr. Dunn by seeing Eno's Fruit Salt. Part of it has been registered as a trade-mark. You are taking a material part of that trade-mark and making it a conspicuous part of yours.

Mr. Moulton submitted that no person could have a special right to the words "fruit salt," either as a trade-mark or as a special part of a trade-mark. One could not regard as a special part of a trade-mark a thing which could not be directly protected as a trade-mark. There could be no prosection for the goods manufactured by Mr. Eno, or for the name given to them. The only protection he could obtain was against representations that the goods of other firms were manufactured by him. The words "fruit salt" formed a descriptive term over which no person could acquire any rights whatever.

Mr. Justice Kay: Could you at this moment have those two words protected for you?

Mr. Moulton: No, my lord, I could not.

Mr. Justice Kay: Then what right have you to obtain registration of them?

Mr. Moulton: I am not applying to have them registered.

Mr. Justice Kay: Then what are you applying for?

Mr. Moulton: For the whole of this label. The learned counsel went on to say that he was not entitled to protect the exclusive use of the words "baking powder," but yet he was entitled to have those words registered as part of the trade-mark. "Fruit salt," he contended, stood in exactly the same position as "baking powder," because it was a descriptive term over which no person could acquire a right. It was important to bear in mind that in one case the words "fruit salt" were used with regard to baking powder, and in the other case with regard to an effervescing drink. The words properly applied to cream of tartar, and therefore were used more properly with regard to Mr. Dunn's baking powder than with regard to Mr. Eno's preparation, which consisted of tartaric acid, bicarbonate of soda, Epsom salts, &c., and had no potash in it. What, however, he chiefly relied upon was that there was no protection for the words "fruit salt" either directly or indirectly by reason of Mr. Eno having used it or registered it as a part of his trade-mark.

Mr. A. Birrell, following on the same side, argued that the words "fruit salt" were a necessary description of Mr. Dunn's goods.

Mr. Justice Kay then proceeded to deliver judgment. He said that the applicant, Mr. Dunn, was a Canadian trader. He had carried on business for some time in Canada, and having manufactured there a certain baking powder, he came to this country and said he intended to set up the manufacture here. In order to prepare the way for the success he anticipated, he sought to have a trade-mark of his, which was invented, he (the judge) presumed, for that purpose, put upon the register. The law on the point was so plain that he saw no reason to doubt for a moment what the duty of the Controller would be. The Controller's duty was to consider whether a trade mark was itself, or contained as part of it anything calculated to deceive, and anything which, if used exclusively, would be calculated to deceive. The Act said, "It shall not be lawful to register as part of or in combination as a trade-mark any words the exclusive use of which would by reason of their being calculated to deceive or otherwise, be deemed disentitled to protection in a court of justice." Mr. Dunn told the court that for ten or twelve years before he began to use the words now objected to he was aware that Eno had used them largely in Canada. He told the court that he could not say that he ever saw the words in combination before he saw Eno's use of them, and that he believed not. Therefore the particular combination of the words "fruit salt" was suggested to him by Eno's use of them. Mr. Dunn referred in his affidavit to Brand's "Manual of Chemistry," which was dated 1841, and extracts had been read from that book. But in not one of them, nor in any other book to which that gentleman had been able to refer, had he found this particular combination of the words "fruit salt," which had been used, as he admitted, ten or twelve years before he began to employ the words in Canada. And now he came to this country and asked to be allowed to register a trade-mark which contained those words most conspicuously. In the dark part of the trade-mark was his own name, "Dunn," and this was not nearly so legible as the words which followed—"Fruit Salt Baking Powder." He (the judge) could only say that anyone who had been accustomed to buy Eno's Fruit Salt under that name would, unless he examined the trade-mark very carefully, naturally suppose that this was another adaptation of Eno's preparation, and that it was probably made by Eno himself. In fact, Mr. Dunn came to this country, and finding this article being sold under a combination of words, which, as far as he was able to inform the court, was invented by Eno himself, and was never used in any chemical work or otherwise by any human being, he chose to adopt it as an essential part of a trade-mark which he wanted to place on the register. All he (the judge) could say was that the putting the two words "fruit salt" on the register by Mr. Dunn would be eminently calculated to deceive, and they were words which he could not have the exclusive use of. How on earth could Mr. Dunn say he would be entitled to the exclusive use of those words? The answer to that question was as plain as it could possibly be, and it seemed to him that it was perfectly conclusive reason for not registering this trade-mark. The Controller was quite entitled to say if there was a sufficient reason for doing so that he did not think it right to register a trade-mark. In his (the judge's) opinion this was clearly an attempt on the part of Mr. Dunn to obtain the benefit of Mr. Eno's large trade. He wanted to sell his article by inducing people to believe either that it was made by Mr. Eno, or made in the same way or in some way which would give it part of the reputation Mr. Eno had obtained from his fruit salt. There were millions of combinations of words which would be quite as good for the applicant as "fruit salt," although they would not be as good for him in the sense in which he wanted to use them, because they would not interfere with the trade of another man, which was evidently what Mr. Dunn wanted to do. If his real object was to describe what his baking powder was composed of why did he not call it "Tartrate of Potassa Baking Powder"? He refused Mr. Dunn's application with costs.

Mr. Moulton submitted that his client was entitled to the registration of the label without the words "fruit salt."

Mr. Justice Kay: I do not think I ought to be asked to do that now. You must proceed in the usual way. There may be somebody else objecting.

Mr. Moulton: On the motion with regard to the removal of the trade-mark of Mr. Eno, your lordship will give the usual order with costs.

Mr. Aston: Not, I trust, with costs.

Mr. Justice Kay: If you submit to the usual application, you must submit to the usual consequences.

Mr. Aston: Then I ask for the costs of the first application, which my friends have abandoned. We succeed in two applications, and my friends succeed in one.

Mr. Justice Kay: Yes, that will be right.

A "Dental Boiler."

The case of Musgrave *v.* Balfre was heard on Monday, in the City of London Court, before Mr. Deputy-Registrar Quilter. The claim was made by Mr. Charles Musgrave, of 2 Devonshire Street, Bishopsgate, E.C., to recover payment of 1*l.* 19*s.* 6*d.* for a "dental boiler" supplied to the defendant, Mr. John Balfre, a chemist, carrying on business at 187 Marlborough Road, Chelsea, S.W. The plaintiff gave evidence in support of the case, and the defendant did not appear to defend the action. He communicated by post with the Registrar's office an admission of his liability. The learned Deputy-Registrar inquired what was a "dental boiler." The plaintiff said it was used in connection with softening the materials with which dentists took the cast of patients' mouths as a preliminary to having false teeth. Mr. Pocock, one of the counsel in Court, suggested it might be an "acci-dental" boiler. (Laughter.) The learned Deputy-Registrar found for the plaintiff, and allowed his costs.

A Disputed Order.

In the City of London Court, before Mr. Commissioner Kerr, on January 25, the case of the Sheppey Glue and Chemical Works (Limited) *v.* East was disposed of. The first part of the case has already been reported in the columns of The Chemist and Druggist. The proceedings were instituted at the instance of the plaintiff company, chemical merchants, &c., of 34 Mark Lane, E.C., for the recovery of 2*l.* 15*s.* due for goods supplied to the defendant, Mr. J. East, of 7 Ipswich Road, Pownall Road, Dalston, E., in the way of his business. On the last occasion that the case came before the court, Mr. Evelyn B. Tattershall appeared for the plaintiff company, and the defendant then stated that he never gave the plaintiffs an order for any goods in his life. They had taken upon themselves to send him some goods, and they were still at his place at the plaintiffs' risk. Now he had been sued for them, which he characterised as being very hard upon him. They would not be able to say he had broken bulk, which happy little proceeding he had carefully avoided. Consequently the goods were still intact. Mr. Tattershall said by some inadvertence his witnesses were not present to contradict or traverse the defendant's statement. Ultimately, however, the parties came to an amicable settlement, and the case was struck out.

BANKRUPTCY REPORTS.

Re A. W. Tully, late of 121 Brunswick Road, Bromley, Patent-medicine Vendor.

At the London Bankruptcy Court last Tuesday Mr. Registrar Linklater presided at a meeting for the public examination of this bankrupt, who failed recently with liabilities 323*l.* 19*s.* 2*d.* and assets stated at 1*l.* 16*s.* Mr. Aldridge, representing the Official Receiver, conducted the examination. The bankrupt stated that he was formerly assistant to an apothecary, and for some years prior to August, 1887, he carried on business as a patent-medicine vendor. During the latter part of the time the profits of that business had fallen away. He had also practised as an accoucheur, and had taken proceedings against a local doctor to recover damages for a libel. The court awarded him a verdict of 250*l.* and costs, but he had not been able to recover any part of the amount. The Apothecaries' Company had taken an action against him, under which he had to pay a penalty of 20*l.* and a further sum of 10*l.*, the costs of such action. The result of these proceedings was his present failure. No creditors attended to oppose, and the bankrupt was allowed to pass.

Re Wm. Joseph Walton Powell, 72 Castle Street, Bristol.

This debtor, who lately traded with three partners as the Castle Pharmacy and Tea Company, appeared for his public examination at Bristol on January 25, before Mr. Registrar Harley. Debtor said the partnership commenced in October last, and was dissolved in November. He did not take any money out of the business when he retired. On further examination he denied that Mrs. Ferris, of Bath, gave him money for his business, but said it was given for instruments for the Salvation Army band. The examination was adjourned to February 15, for further accounts to be filed.

Fred Eastwood, formerly carrying on business at Accrington and Church, and now at Crown Works, Cotton Street, Accrington, Mineral and Produce Broker.

A meeting of the creditors of this debtor was held at the office of the Official Receiver, Manchester, last week, when it was stated that the debtor had absconded. A receiving order was made on December 4, 1888, on the petition of creditors, and the debtor was adjudicated a bankrupt on January 12. There was no estate whatever. His household furniture and effects were sold by the sheriff in October, and shortly after he disappeared, and it was thought he had gone to America. The proofs lodged amount to 441*l.* 5*s.* 10*d.* No resolutions were passed, and the matter therefore remains in the hands of the Official Receiver of the district, Mr. Edelston Preston, The creditors are:—Livesey, John, Accrington, 8*l.*; Bell Brothers, Manchester, 33*l.* 5*s.* 10*d.*; Stratford Brothers & Co., Liverpool, 400*l.*

Re Edward Dobson Moorhouse, Manchester, Surgeon.

The debtor was adjudged bankrupt on his own petition on January 17. He appeared for his public examination in the Manchester County Court on Wednesday, January 30. He stated that he commenced business in 1861 as a chemist and druggist at 153 Chester Road, Hulme, Manchester. He had 450*l.* capital, which he expended in the purchase of the business. He failed in 1868 and his creditors accepted a composition of 5*s.* in the pound. He thought his liabilities then were about 400*l.* In order to pay the second instalment of the composition he had to borrow 100*l.*, to secure which he gave a bill of sale over his property. About 1868 Dr. S. McMillan entered into partnership with him, introducing 150*l.* in cash. About 1872 Dr. McMillan retired from the firm, and he agreed to pay him his share. 250*l.*, giving him as security a policy on his life for 250*l.* This was allowed to lapse, but in October, 1885, he signed an agreement to pay Dr. McMillan 338*l.*, representing the original 250*l.*, with accumulations of interest, and he gave a fresh policy on his life for 400*l.* as security. He continued to trade as a chemist and druggist at 153 Chester Road up to 1878, when he became qualified as a medical man. He had practised at the same address since then, and while doing that he had also made up medicines. He had had resort to the bankruptcy court in consequence of legal proceedings having been commenced against him by Dr. McMillan, who in the statutory statement of affairs was treated as a creditor partly secured for the sum of 389*l.* 18*s.* 9*d.*, less 20*l.*, the present value of the security he holds, viz. the policy of insurance for 400*l.* The chief cause of his failure had been the falling-off in his practice during the past three years. His liabilities amounted to 540*l.* 11*s.* 8*d.*, and his assets (after deduction of preferential claims amounting to 30*l.* 9*s.* 7*d.*) to 68*l.* 9*s.* 3*d.* With the exception of small amounts for drugs, he had not contracted any debts since he became aware of his insolvency. He had only kept a day-book. He had kept no cash-book or ledger during the past three years. During that time he had not prepared any statement of affairs to show how he stood. The examination was adjourned for a week, and the Official Receiver stated that, if no creditor appeared to oppose, it would then be closed.

Amongst the unsecured creditors are:—Battley & Watts, Cripplegate, London, wholesale druggists, 50*l.* 3*s.* 2*d.*; Wyleys & Co., Coventry, druggists, 35*l.*; F. H. Worswick, Chorlton Road, Hulme, Manchester, surgeon, 13*l.* 10*s.*; Mr. Lamplough, High Holborn, London, chemist, 1*l.* 17*s.*

Gazette.

PARTNERSHIPS DISSOLVED.

Allfrey, Wade, Ashe & Battiscombe, Chislehurst and St. Mary Cray, Kent, surgeons, general medical practitioners, and accoucheurs.

Clark, Nottleship & Bailey, Leicester, wholesale druggists and aërated water manufacturers.

Hohenhausen, Kupferberg & Co., Manchester, manufacturing chemists.

King, G , & Co., Sycamore Street, Goswell Road, patent food manufacturers; as far as regards A. A. Wells.

Roberts & Wilson, Doncaster, mineral water manufacturers.

Sharman & Adams, West Norwood, medical practitioners.

THE BANKRUPTCY ACT, 1883.

RECEIVING ORDERS.

Allen, David I., Durham Terrace, Bayswater, doctor of medicine.

Crossley, Atkinson, Coed-Ithel, Mamhilad, near Pontypool, manager of chemical works.

Slater, Harry, Leeds, aërated water manufacturer.

FIRST MEETINGS AND PUBLIC EXAMINATIONS.

Crossley, Atkinson, Coed-Ithel, Mamhilad, near Pontypool, manager of chemical works—Feb. 6, Official Receiver's office, Newport; Feb. 21, Town Hall, Newport.

Norton, Charles Benjamin Spragge, Bristol, formerly trading with W. H. R. Glass, U. Glass, and W. J. W. Powell, as the Castle Pharmacy and Tea Company, chemist—Feb. 13, Official Receiver's offices, Bristol; Feb. 15, Guildhall, Bristol.

ADJUDICATIONS.

Allen, David J., Durham Terrace, Bayswater, doctor of medicine.

Crossley, Atkinson, Coed-Ithel, Mamhilad, near Pontypool, manager of chemical works.

Eichholtz, Robert (trading as Robert Eichholtz & Sons), Newcastle-on-Tyne, export merchant.

Norton, Charles Benjamin Spragge, Bristol, formerly trading with W. H. R. Glass, U. Glass, and W. J. W. Powell, as the Castle Pharmacy and Tea Company, chemist.

Slater, Harry, Leeds, aërated water manufacturer.

NOTICES OF DIVIDENDS.

Cox, Henry Frederick (trading as H. F. Cox & Co.), Thornton Heath, Surrey, and Chicksand Street, Whitechapel, chemical manufacturer—first and final div. of 20*s.*, any day except Saturday, Chief Official Receiver's offices, 33 Carey Street, Lincoln's Inn.

Dixon, Richard (trading as R. Dixon & Co.), Rochdale, soap manufacturer—second and final div. of 2¾*d.*, any day, Official Receiver's offices, Oldham.

Iley, William Henry, Old Shildon and New Shildon, Durham, druggist and grocer—first and final div. of 2*s.* 5*d.*, Jan. 31, 134 High Street, Stockton-on-Tees.

Liversedge, Frank, York, dealer in drugs—first and final div. of 1*s.* 2*d.*, Jan. 29, Official Receiver's office, York.

Pilkington, George, Stockton-on-Tees, surgeon—third div. of 2*s.* 6*d.*, Feb. 12, Official Receiver's office, Middlesborough.

Power, Henry D'Arcy, East Dulwich Road, Victoria Road, Choumert Road, and Rye Lane, Peckham, physician and accoucheur—first and final div. of 3¾*d.*, any day except Saturday, Chief Official Receiver's offices, 33 Carey Street, Lincoln's Inn.

Spink, Thomas, Stockton-on-Tees, soda water manufacturer—first and final div. of 2*s.* 8*d.*, Feb. 12, Official Receiver's office, Middlesborough.

APPLICATIONS FOR DEBTORS' DISCHARGE.

Juller, George, St. George's Street, St. George-in-the-East, mineral-water manufacturer—Feb. 22, High Court of Justice in Bankruptcy.

Laing, William Alexander Gordon, Barnstaple, doctor of medicine—March 12, Barnstaple.

Payne, Jacob Hugh, Thrapston, Northamptonshire, chemist and druggist and sauce manufacturer—Feb. 27, Northampton.

SCOTCH SEQUESTRATION.

Morton, T., Kirkintilloch, chemist and druggist, Feb. 4, at 11.30, Elephant Hotel, Dumbarton.

Personalities.

SIR JOHN LUBBOCK intends to introduce a Bill into Parliament next session to empower County Councils to create one general half-holiday weekly in their respective districts.

MR. A. P. BALKWILL, pharmaceutical chemist, Plymouth, announces that Messrs. Freeman W. Hunt and C. T. Weary have been associated with him, as partners, since January 1, 1889.

MR. GWILYM EVANS, F.C.S., member of the Pharmaceutical Council, has been elected to the Carmarthen County Council. Mr. Evans headed the poll in No. 1 ward of Llanelly with 1,402 votes. Mr. Richard Winfrey, a former president of the London Chemists' Association, but now a journalist, has been elected to the County Council of Holland, Lincolnshire.

MR. EDWIN CHADWICK, C.B., the father of modern sanitary reform, and a living example of the advantages which accrue from a strict observance of the laws relating to health, entered upon his ninetieth year a few days ago. It was in 1828 that he first attracted attention to the question of sanitation in an article which appeared in the *Westminster Review.*

THE will of the late Mr. Frederick Corkbeet Bryant (of Bryant & May, Limited), who died on November 16 last, has been proved. The value of the personalty is 272,321*l.* 16*s.* 2*d.* He leaves the greater part of his property to his wife and children in trust, and makes some other bequests. He empowers the executors to continue any of his investments, "however speculative and hazardous they may be," and to keep open from account to account any purchases or sales of stocks and shares which he may have made, employing as their brokers Pim, Vaughan & Co., and acting on their advice. The executors are to buy the Slyfield estate, for the purchase of which he was in treaty, and they may engage in the business of breeding, rearing, and selling cattle. They are not to compromise a suit which he has instituted against the London Improved Cab Company with respect to cancelling an allotment of shares, but are to prosecute it to the ultimate Court of Appeal, and for that purpose he leaves in trust 10,000*l.*

THE will (dated December 22, 1888) of the late Mr. W. J. Bush (manufacturing chemist), of Artillery Lane, Bishopsgate, and of Thornleigh, Sydenham Hill, Kent, where he died on the 10th of last month, was proved on Monday in the Probate Division of Principal Registry of the High Court of Justice. Administration of the personal estate has been granted to Mrs. M. A. Bush, the widow (who is also executrix, a trustee, and guardian to those children who are minors), and to Messrs. William Ernest Bush of Thornleigh, Richard Arthur Bush of Mitcham, and James Mortimer Bush of Thornleigh, the sons, executors and co-trustees under the will with Mrs. Bush. The gross value of the personalty amounts to 90,075*l.* 1*s.* 7*d.* The testator leaves 100*l.* to his foreman, Mr. Thomas Wootton. He bequeaths all his personal property to his trustees to realise, and from the proceeds they are to raise the sum of 60,000*l.* and to hold it in trust for the benefit of three daughters and two younger sons. The testator bequeaths the residue of his personalty in trust for the benefit of his wife for life, and after her death it is to be equally divided between his ten children. He devises his freeholds also in trust, directing that the income arising therefrom shall be paid to his wife, and upon her decease the property is to be sold and the proceeds divided between the children. The testator gives the trustees absolute discretionary power as to leaving any portion of his capital in any business in which he had been a partner. A city paper states that the goodwill of his business, the capital employed therein, and other assets, together with the freehold premises in Artillery Lane, Bishopsgate, and Ash Grove, Hackney, were conveyed by the testator to his five eldest sons in his lifetime. Also that the testator in his lifetime made additional provision for his widow.

Medical Gleanings.

Diabetes Mellitus.

The physiological action of codeia in diabetes mellitus cannot be positively stated. But it is highly probable that it checks any increase in the production of sugar in the human economy through a calming of the glycogenic power, aided by the nervous system. Even if codeia does not cure all diabetic patients to whom it is given, it still cures many, almost every one is improved by it.—*Prov. Med. Jour.*

Erysipelas.

Dr. T. P. Thomas, of Shrewsbury, reports to the *Prov. Medical Journal* good results in the treatment of erysipelas by the external application of nitrate of silver solution, 20 grains to the ounce of spirit of nitrous ether. [This is a good old remedy. In making the solution dissolve the nitrate in about half a drachm of water—heating gently in a test-tube—then add to the spirit of nitrous ether. Otherwise solution is slow, and a considerable portion of the silver is precipitated as nitrite.—Ed.]

Pastes for Skin Diseases.

Dr. Gruendler, of Hamburg, finds that carbonate of magnesia has remarkable qualities in absorbing water, but to get advantage of its full powers it is advisable to combine it with other powders commonly used as dusting-powders or ingredients of pastes. For example, 50 parts of oxide of zinc or starch may be mixed with 10 parts of carbonate of magnesia, and the whole rubbed up with 50 parts of fat to form a paste, or as a simple absorbent powder it may be very conveniently used mixed with oxide of zinc.

Jaborandi in Bright's Disease.

Dr. J. G. Marshall, of Dover, gives particulars, in the *Lancet* of December 22, of a case of Bright's disease which he treated with pilocarpine. The results appear to have been of a miraculous character, and induce Dr. Marshall to say that jaborandi and its alkaloids must occupy the first place among known therapeutic agents in the treatment of the disease. He has had good results from the use of an infusion made from the leaves of jaborandi, and drunk hot like ordinary tea; but the drawback appears to be the nausea so easily excited by them. It is better to administer hydrochlorate of pilocarpine hypodermically.

Antipyrin in Sciatica.

Antipyrin has been successfully used by Osherovsky as a hypodermic injection for sciatica. The solution used consisted of 1 drachm of antipyrin, half a grain of cocaine hydrochlorate, and 1 drachm of antipyrin. Of this from 10 to 16 drops are injected once a day into the femoral cellular tissue. The results obtained in four cases are considered to be such as to give preference to antipyrin over morphine. It should not be forgotten, however, that the subcutaneous injection of antipyrin may sometimes give rise to secondary symptoms of an alarming character, so that the smallest dose only should be given to begin with.

Salicylate of Mercury in Syphilis.

This mercurial combination is obtained by precipitation from an aqueous solution of nitrate of mercury by means of an alcoholic solution of salicylate of potassium. The precipitate is in the form of an amorphous white powder, void of taste and odour. The soluble mercury and sodium salicylate is preferred to the simple mercury salicylate (The Chemist and Druggist, xxxiii. 70). In the absence of this, the following solution may be used as an injection in blenorrhagia:—

Salicylate of mercury	3 grs.
Bicarbonate of soda	½ drachm.
Distilled water	15 oz.

An injection may also be made by suspending the salicylate in water with gum acacia. For application to syphilitic sores an ointment is recommended, strength from 2 to 8 grains per oz. The remedy is best administered internally in the form of ¼-grain pills, made into the size of 1 grain, with powdered liquorice and glycerine of tragacanth.

Children's Nose-troubles

give them much annoyance, and are not infrequently the cause of more distressing disorders. Simple running at the nose, the result of cold, may, according to the *Medical Review*, be relieved by the injection of a little vaseline up the nostrils, or either of the following may be used in the same manner:—

Acidi carbolici	gr. v.
Aluminis sulph...	gr. x.
Vaselin.	ʒj.

M.

Unguent. hydrarg. ox. rubr.	ʒss.
Unguent. zinc. ox.	ʒj.

M.

Phenacetin in Neuralgia.

Professor Ott, of Prague, referring to the action of phenacetin as an anti-neuralgic, states that there was hardly any neuralgia, either reflex or peripheral in origin, which could not be influenced by the drug. It was only in diseases of the central nervous system, in affections of the brain and the spinal cord, that the drug failed in most cases to produce any effect. The best results with phenacetin were obtained in hemicrania and occipital neuralgia. It also gave excellent results in two cases of intercostal neuralgia. In pure neuralgia of the fifth nerve the effect was only temporary; in one case of severe sciatica, the medicament was useless.

In Professor Ott's hands

Sulphonal

proved to be a very good hypnotic. In most cases, tranquil and prolonged sleep supervened after the administration of from 1 to 2 grammes. On one occasion he had under his care a case of hypochondriasis with arthritic indisposition and temporary arhythmia of the heart. The patient, who was accustomed to the injection of morphine, slept well after the administration of 2 grammes of sulphonal, and the arhythmia always ceased a few minutes after the administration. In another case, however—that of an hysterical girl, aged 29, who was also accustomed to morphine—no effect could be obtained even with a dose of 3 grammes. This last observation agrees with Oesterreicher's statement that sulphonal had no effect during abstinence from morphine. It also failed in one case of sciatic neuralgia.

Radical Cure of Hernia.

Reference has recently been made in this journal to the cure of hernia by injection, according to the method of a specialist. An American physician issues the following for this purpose:—

Fluid extract of white oak bark, 6 oz., reduced by distillation to	2 oz.
Alcohol (90 per cent.)	½ oz.
Sulphate of morphia	
Tincture of green hellebore	2 drms.

Mix.

Of this inject about 30 minims subcutaneously, then apply a rubber bandage with a compress over the injured region. In a case which is referred to the patient was kept in bed for about a week, then went about business as usual, wearing a soft truss for a year, but there has been no return of the hernia.

Chemical Constitution of Germicide Remedies.

Dr. S. K. Jackson, of Norfolk, Virginia, in a paper on "The Carbon Compounds, their true place in the Treatment of Typhoid Fever," avers that "the more atoms of carbon an agent contains, the more powerful is its germicidal, and therefore its anti-pyretic, effect.' In this way he passes through the aromatic series, from carbolic acid (C_6H_5HO), salicylic acid ($HC_7H_5O_3$), chinoline (C_9H_7N), naphthol, turpentine, kairin ($C_{11}H_{12}N$), antipyrin, to quinine, which contains twenty atoms of carbon, and is distinctly germicidal in malarial fevers. Yet, he remarks, for other fevers, e.g., typhoid, the carbon compounds are of less value than the nitrogenous, as the salts of ammonium.—*Lancet.*

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See Illustrated Page Advertisement on Page 46.

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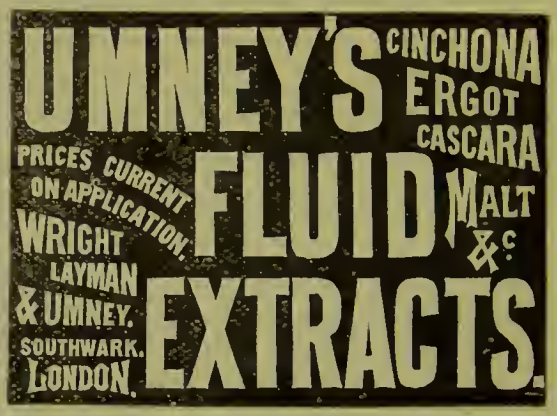

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See Advertisement, page 10 (bottom folio).

SAVARESSE'S SANDAL WOOD OIL CAPSULES.

SPECIAL OFFER. [1]

(See Evans, Lescher & Webb's advt. on page 21.)

Fletchers' Concentrated Liquors

See DIARY, 1889, Pages 17 and 18.

EDITORIAL NOTES.

THE PHARMACY BILL OF 1889.

FEBRUARY has come round again, and before it is over our legislators are to reassemble for parliamentary work. It may be anticipated that another Pharmacy Acts Amendment Bill will be one of the subjects submitted for their consideration. Is it impossible to hope that the Bill of 1889 will be

one which all classes of the trade can support with something like enthusiasm?

The speakers and writers for the Pharmaceutical Council sometimes condescend to ask for a more generous appreciation of the efforts of that body. They might have this at once if only they would aim a little more than they have done to act in sympathy with the general wishes of those whom they directly and indirectly represent. But what possible interest can their policy have for any but the smallest minority of chemists and druggists, so long as it is so evidently directed towards merely posing as one of the learned societies of the metropolis? We by no means grudge the Society the dignity and the reputation to which it has attained in this respect, but we should like to see it fulfilling more vigorously the duty which undoubtedly belongs to it, of leading the trade, and striving a little less devotedly to keep in line with the followers of the Royal Society.

It is understood that the Curriculum Bill is to be re-introduced. This long-promised scheme, which so many committees have tinkered, and over which so many years have been wasted, seems to have lost whatever effulgence it ever possessed, even in the eyes of its former advocates. We have not heard of any individual pharmacist who made any effort whatever to assist in pushing the Bill through last session, or who mourned over its failure. Sir Henry Roscoe himself, in his address to the Pharmaceutical Society last October, showed with a great deal of force that the Bill was but very little needed, because, as he said, the student cannot cram up practical dispensing, or practical chemistry, or practical materia medica. But, needed or not, it is the fact that nobody is passionately eager for it, and its very best friends would surely admit that there are plenty of reforms in pharmacy more pressing than this one.

What is wanted is a moderate Bill framed in the interests of the trade and the public generally, on which all sections of chemists can unite. They never will on that Curriculum Bill alone. Parliament itself, however, pointed the way last year. The branch-shop clause is one which is urgently demanded to ensure the personal qualification of the chemist to whom a customer addresses himself. This principle was the basis of the Pharmacy Act of 1868, and Parliament is quite consistent in demanding that that principle shall be enforced in all shops. Why should not Parliament agree to the analogous claim that every owner of every open shop shall be a qualified person? This should be a clause of the Bill, and another should be the demand that not only the sale and compounding of poisons, but also the compounding of medical prescriptions, should be the exclusive duty of qualified chemists and druggists, the rights of medical men of all classes being clearly reserved. The Lord Chief Justice of Ireland the other day declared that this legislation, which exists in Ireland, but not in England, was of great public importance, and we are not at all sure that this would not be the general opinion of members of both Houses of Parliament. Lastly, we think the public safety demands a clause declaring that carbolic acid should be added to the schedule of poisons, and stipulating that regulations should be made respecting its sale.

We do not advocate or support the extravagant demands which many of our correspondents have put forward. It is no use to ask for protection pure and simple, nor for an adequate return for the cost involved in passing the examinations. Parliament will never grant any such conditions. But the clauses we suggest are such as Parliament might be reasonably expected to concede. The first is its own proposition; the second is almost a corollary from it; the third it has agreed to for Ireland, and is an obvious protection to the public; and the fourth is supported by such a mass of terrible facts that these have already forced some legislators to demand some sort of assistance. Will not the Pharmaceutical Council place itself at our head and go forward in a Parliamentary campaign something like that which we have suggested, and which would surely unite the hearty support of its own members and of the larger outside body, who only wish for reason to look to it with some confidence as the mouthpiece of the trade.

THE POSITION OF QUICKSILVER.

The quicksilver market has been for the last three months in a very singular position, and it is now generally thought that we are nearing the end of the abnormal difference which has so long existed between the quotation of the consignees of the Spanish product and that of the second-hand sellers of the metal. Messrs. Rothschild & Sons' price has not been altered since the middle of last October, when it was raised from 9*l.* to 9*l.* 10*s.* per bottle. Since that period the importers' quotation has been a nominal one only; for the holders of second-hand stock, who undersold Messrs. Rothschild by 7*s.* 6*d.* per bottle when the latter advanced their price to 9*l.* 10*s.*, have since then been offering at gradually receding rates, until, at the end of December, it was possible to buy from them at 7*l.* 17*s.* 6*d.* per bottle, or nearly 20 per cent. under the importers' figure. Subsequently they have shown somewhat more firmness; but consumers of quicksilver—and, for the matter of that, speculators also—have all along been able to save at least 10 per cent. by buying from second-hand holders. It is, therefore, clear that the importers cannot have been selling any quicksilver at all since October last, [and thus the question arises, what can be the motive which led them to thus temporarily efface themselves as it were from the market which they are supposed to control? The imports of quicksilver into the United Kingdom in 1888, according to the Board of Trade returns, were 73,770 bottles, the exports 47,132 bottles, leaving an excess of 26,638 bottles, which has probably not been all used in this country, where the average consumption of the metal is placed at about 13,000 or 14,000 bottles annually. Our stock therefore may be supposed, during the year 1888, to have been augmented by some 13,000 bottles. If we add to this that our imports during the past year have been abnormally large, while our shipments have been unusually small, the statistical position of the article would clearly point to lower, or, at least, against higher, rates. But there are other factors which require consideration, and materially alter the bearish aspect of affairs. In the first place, the stock at the beginning of 1887 is known to have been very small, and during that year it must have diminished still further, the exports and home consumption having been, it is thought, at least 20 per cent. in excess of the imports, so that the balance at the end of 1888 would scarcely suffice to make good the deficiency at the close of 1887. Another argument which weighs heavily on the other side of the question is the fact that the world's production of quicksilver, so far as can be ascertained, has not been larger in 1888 than it was in 1887, and rather below the estimated average of the last decade. And the consumption of quicksilver is known to be on the increase. Not only is its use becoming greater for manufacturing purposes, but the recent development of the mining industries in different parts of the globe must have materially influenced the demand for the article. The inference is therefore permitted that if the stock in London, the central market, has increased, it has been because the high average prices which have been prevalent during the last eighteen months or so have led the principal con-

sumers to buy from hand to mouth only, thus leaving them at the present moment practically bare of supplies. Then there is a report which has recently been circulated, and which is said to have originated in the best-informed quarter, to the effect that a serious explosion has occurred in the Almaden mines, which will reduce the output of quicksilver there during the current year by 12,000 to 15,000 bottles, or about 25 per cent. No particulars of the "explosion" are given, and it certainly seems rather singular that an accident which is expected to have such serious results could have occurred, even in Spain, without attracting some passing notice in the public press; still, even if we discard this report altogether, the fact remains that Messrs. Rothschild are generally believed to hold a very small stock only. Another plausible argument brought forward by those who take a favourable view of the present state of the market is that all appearances favour the supposition that Messrs. Rothschild & Sons are quietly waiting until the second-hand holders shall have sold the bulk of their supplies to the consumers, and will then profit by the bareness of the market to have things their own way for a time. This idea seems to have much to commend it. It is true that it is often denied that the market is any longer ruled by the principal importers, and affirmed that it is the second-hand holders who give it tone; but it is difficult to fully accept that view, especially as Messrs. Rothschild have the immense advantage of alone knowing the actual stock which they hold and the supplies which they can expect, while second-hand dealers are groping in the darkness on these important points. It seems strange that the second-hand holders should have taken so little advantage of the exceptionally long innings they have enjoyed. If there had been anything approaching cohesion in their camp they ought, we should think, to have been easily able to maintain the price at about 9*l.* instead of revolving round 8*l.* 5*s.* as they have been doing. There is, then, strong *primâ-facie* evidence in support of the view that Messrs. Rothschild are biding their opportunity to again enter the market under the most favourable opportunities, their competitors sold out, the consumers in want of material, and the production stationary at best, if not actually declining. For how long a high quotation would be maintained it is not possible to say; the probabilities are that a period of fluctuation would succeed to a short splash of activity, but at any rate we are rather inclined to think, judging from necessarily incomplete data, that at a second-hand price of about 8*l.* 5*s.* quicksilver deserves attention as a passing investment.

In our market report we publish an interesting table of the estimated production of quicksilver during the last ten years. It will be seen that the output of the Spanish mines is decidedly on the increase, while three times as much mercury is now obtained from the Italian deposits as was the case in 1879. The Idria mines in Austria yield about the same amount of metal every year. Most of the Italian and Austrian quicksilver is consumed on the Continent, but a not inconsiderable proportion finds its way to this country, where it is generally sold at 1*s.* per bottle below the price of Spanish. But the importers of the Italian and Austrian product invariably act in concert with their larger competitor, and it is believed that the latter also exercises some sort of control over the imports from Austria and Italy. The Californian mines have had their day. When their production was at its zenith this mercury was very largely exported to Eastern Asia, but that part of the world is now compelled to fall back upon the European metal. The production of the Borneo mines is believed to be increasing slowly, and in the same measure as the exploration of this immense island proceeds so will its yield of quicksilver grow. The deposits in Russia, Queensland, Mexico, Cuba, &c., must also sooner or later become important factors in the market, but the supplies from those sources do not in any way affect the present position of the metal.

MOOT POINTS IN DISPENSING.

THE pharmacist everywhere claims that his remuneration for dispensing should be based upon a higher scale than that for ordinary trading transactions, because proficiency in the art amounts to professional qualification, and the duty is on the whole so onerous as to deserve a return commensurate with the responsibility and skill and knowledge involved. The claim is one which, fortunately, the medical profession and the public recognise to a certain extent, and even "cutting" shops and stores recognise the fact that the profit on dispensing transactions should be on a higher scale than profits usually are. The truth is that there is a limit below which dispensing does not pay; for in the majority of cases a reasonable profit on the drugs used in a prescription would recompense the dispenser most inadequately for the mere labour of compounding, and unless skill and knowledge were in some measure recompensed pharmacy would, in its professional aspect, be a gigantic failure. It follows, of course, that if dispensing charges include a return for professional skill and knowledge, the public is entitled to have the latter meted out to them in due proportion. Hence the dispensing department is one to which the pharmacist can never pay too much attention; he cannot be over-scrupulous in the selection of materials, too zealous in carrying out the directions of the prescriber, or too observant, in his intermediary position between the physician and patient, in looking for and checking errors or clearing away points of doubt which, if thoughtlessly carried out to completion, might seriously prejudice the condition of the patient. It is a matter for congratulation that pharmacists rarely substantiate the obvious blunders of physicians. These are things of every-day occurrence, and are generally trivial errors, such as an extra stroke of the pen turning ʒ into ℥, the leaving out of such suffixes as "dil." and "comp.," and so forth. To pharmacists who are accustomed to dispense a physician's prescriptions, the occurrence of such slips is quickly noted, but others may not be so fortunate.

The members of the Midland Counties Chemists' Association had last week an opportunity of considering several "moot points" in dispensing, one of which, at least, was an excellent example of difficulties which dispensers have to encounter owing to the thoughtlessness of prescribers. "What is meant by Oss?" is the topic to which we refer. It seems almost inconceivable that this has to be discussed a quarter of a century after the imperial weights and measures have been first used in the national pharmacopœia, and more than half a century after the imperial measures have been officially and generally used in medicine and pharmacy. Surely there is no medical man in practice in Birmingham now who knew anything of physic when the 16-oz. pint was in pharmacopœial use. Yet there are eleven physicians in the city who are still under the impression that the pint is 16 oz., and mean an 8-oz. mixture to be dispensed when they write such a prescription as:—

Magnesii sulphatis	℥j.
Acidi sulphurici dilati	♏ij.
Infusi gentianæ ad	Oss.

On this point we are afraid that we must be dogmatic. In the United States the old pint still exists, but not so in the United Kingdom. Here Oss means 10 fl. oz., the Pharmacopœia says so. "In the measurement of liquids the imperial measure is used for the higher denominations"

(preface, page xx.), and "1 pint O = 20 fluid ounces" (page 498). The Weights and Measures Act, 1878, defines the gallon as the equivalent of "10 imperial pounds weight of distilled water," and "the pint shall be one-eighth part of the gallon." It is further stated (sect. 19) "no local or customary measure . . . shall be lawful." Mr. Jones quoted a passage from the Weights and Measures Act of 1835 to the effect that there is no exception made in the case of medicines. This Act, however, was repealed; still the sentence which we quote from the 1878 Act covers the ground specifically mentioned in the Act of William IV.'s reign. It follows, therefore, that when Oss is ordered in a prescription, and when the dispensing of it constitutes a sale, the chemist must legally give 10 fl. oz., or obtain the sanction of the prescriber to alter the quantity. It is not right, however, that prescribers should, either through pure carelessness or for the purpose of perpetuating an obsolete expression, put dispensers to the risk of legal proceedings. Quite recently it appeared from a correspondence in one of our medical contemporaries that the sign ℥ occurring in prescriptions is considered by some prescribers to mean 437½ grains for solids as well as for liquids. Apart from the semi-official expression of opinion to the contrary which was given by Professor Redwood some years ago, the fact remains that a little thought would show any medical man how fatal this idea is to uniformity. We always think of a fluid ounce as 480 minims, not 437½ fl. grs., and doses are calculated on that basis. So with solids; the 480 gr. oz. becomes necessary to the prescriber in calculating out his doses, as, for instance, in the following:—

Potassii bromidi .. .. ℥j.
Aquæ ad .. .. ℥viij.

This in tablespoonfuls gives a dose of 30 grains of the potassium bromide; if the 437½ gr. oz. were used the dose would be 27·3 grains. Few pharmacists indeed, none we hope, would give the latter rendering.

The prolonged discussion which has gone on in our correspondence columns for several weeks regarding the proper interpretation of "aqua menthæ" still drags along. It is typical of what might occur regarding other points, but we are no nearer a satisfactory conclusion than we were at the beginning. That is to say, no better way out of the difficulty has been brought forward than that given in "The Art of Dispensing." We may repeat the advice given therein "It is advisable to use aq. menth. pip. when 'aq. menth.' is ordered, unless the dispenser knows the intention of the prescriber to be the contrary." This advice, or dictum, as we called it, remains unassailed. The inquiry has been pressed home to the medical men who are in the habit of writing "aq. menth.," and it has been found that some mean one thing and others another. But two practical and sound suggestions have been made—one, by Mr. R. H. Parker, is to collate a list of all practitioners who mean spearmint water when they write "aq. menth." We have a beginning with the name of Sir William Jenner. Will subscribers favour us with more names and addresses, so that this useful addition to the dispensing counter may be made once for all? The second suggestion made was that the first dispenser should specify on the prescription which water was used. When will this act of common courtesy become an inviolate law in pharmacy regarding all prescriptions which bear a moot point? Be it the size of a small pill, the interpretation of liq. taraxaci, dec. sarsæ, or what not, the first dispenser should indicate on the prescription the course he has pursued; and this done neither doubt nor hesitation remains for future dispensers. Most of the debateable points in prescriptions would thus vanish, because in nine cases out of ten the first dispenser knows what the prescriber means; and though his professional skill and knowledge may not be a whit superior to those who are less favourably placed, he secures an advantage over the latter by his special experience. This, surely, is not the reason why prescription annotation is not so general as it might be.

SEA MEDICINE-CHESTS.

To-day (February 1) the new scale of medicines and medical stores for passenger ships comes into force. This scale has been compiled in consequence of repeated complaints as to the insufficiency of the old scale. We note the alterations which have been effected, and refer those interested to the Secretary of the Board of Trade, Whitehall, for the complete scale. It is directed that the medicines are to be prepared and plainly labelled in Latin and English names according to the British Pharmacopœia, and the official dose for an adult given in the Pharmacopœia to be stated on the label. Formerly Latin names were not required, and "the official dose" takes the place of "average dose." The list of medicines has been very materially altered, and fairly indicates medical progress during the past four years. Thus the following have disappeared:—Acetic and nitric acids, carbolic acid (now supplied in the liquefied state), amylum, calx chlorata, charta epistastica (liquor epispasticus taking its place), Burnett's solution and concentrated carbolated creosote, creosote, chloral hydrate, cupri sulph., empl. cantharidis, ferri sulph., hydrarg. subchlorid., lin. camph. (now lin. camph. co.), liq. atropiæ, calcis, morph. acet., potassæ, and potass. permang. (all replaced by more acceptable preparations); ol. menthæ pip. gives place to the spirit, pil. aloes c. myrrhâ, ipecac. c. scillâ and quiniæ have gone, so also have plumbi acetas, and four compound powders are left out—viz., pulv. antimonial., astringens, rhei co., and scammon. co. Syr. ferri iodidi is omitted; sol. morph. acet., for hypodermic use, is replaced by a complete hypodermic case; and tinct. ergotæ and valerian. ammon. are the solitary deleted tinctures.

The additions are numerous and important; they include acidum boricum, bismuthi carbonas, borax, calcii hydras, four liquid extracts, viz., cascaræ sagradæ, cinchonæ, ergotæ, and filicis; ferri et ammonii citras is new, so are iodoformum and linimentum belladonnæ. Iodine liniment, as well as the compound camphor liniment, we also find here. The new liquors comprise ammon. acet. fort., arsenicalis, atrop. sulph., epispastic., ferri perchlorid. fort., hydrarg. perchlor and morphinæ hydrochlor. A standard solution of liq. potassii permang., to be made up by the ship's surgeon, takes the place of Condy's fluid. Paraffinum molle (definitely defined as "vaseline") finds a place in the list. There are several new pills (plumbi c. opio, rhei comp., and scillæ comp.), which, with the old ones, are "to be coated with gelatine." Bromide and chlorate of potassium have been added to the list of potash salts, and pulv. cretæ aromat. and glycyrrhiz. comp. to the compound powders. Salicin and salicylate of sodium are tributes to the modern treatment of acute rheumatism; and santonin is an old friend for troubles vermicular. Spirits of chloroform and peppermint are new. Syrupus chloral is ordered instead of chloral hydrate in crystals—an exchange, by the way, open to serious objection on the pharmaceutical side. There are ten new tinctures, viz., belladonna, compound benzoin, compound cardamoms, catechu, compound gentian, henbane, nux vomica, rhubarb, senega, and stronger ginger. Of new ointments there are three—gallæ cum opio, hydrarg. ammon. (taking the place of the red oxide ointment), and hydrarg. nitrat. dil. Vinum antimoniale and zinci

oxidum are also new. In an addendum we find antipyrin, a hypodermic injection case, with syringe and tablets, of discs of sulphate, or hydrochlorate of morphine ($\frac{1}{4}$ gr.), sulphate of atropine ($\frac{1}{100}$ gr.), and hydrochlorate of cocaine ($\frac{1}{4}$ gr.). Carbolic acid and Jeyes' preparations, with sulphur for fumigation, hold the field as disinfectants. The medical stores comprise many adjuncts for dispensing, which mark the progress of the refinements of civilisation even aboard ship. For example, fluted bottles, for external applications, as well as plain bottles, are now to be supplied, as well as blank labels, poison labels, and dispensary paper. The surgical appliances include iodoform gauze, sublimate wood wool, several new kinds of splints, plaster of Paris for bandages, and Higginson's enema syringe. Vaccine lymph appears in the list for the first time, and not the least useful addition is a urinary test case, containing urinometer, spirit lamp, litmus paper, twelve test tubes, nitric acid, and cupric test for sugar. The scale for North Atlantic steamships has also been amended on similar lines to the foregoing.

COUGH MIXTURES.

A SUITABLE basis for a mixture to relieve cough, so that when appropriate drugs are incorporated therewith it shall adequately serve to remove more or less permanently this troublesome and refractory symptom, should always be welcome.

A cough may be originated in many ways, for it is merely the outward and visible sign of an inward ailment. As a mere symptom it is often salutary, as in the case of many severe diseases implicating the lung substance, where by means of this spasmodic convulsion of the muscles connected with the chest much phlegm may be expectorated. In such cases the cough should rather be encouraged than the reverse; any attempt to suppress it being fraught with danger to life.

It stands to reason that a given mixture may be found better adapted to produce an amelioration of the patient's condition when produced by a certain group of constitutional symptoms than another. A panacea, which looks so delightfully simple and refreshing on paper, setting forth in glowing terms that a cure may be guaranteed in a few doses, must often be quite inconsistent with facts that are known. How can it be possible for a cough (of bronchitis or of advanced consumption, for example) to be cured by any one single remedy, seeing that it may be originated from so many diverse morbid conditions to which the human frame is liable?

In persons who are ordinarily in good health, however, coughs are frequently due to easily removed causes. This is particularly the case if they are set up by exposure to cold, wet feet, and other preventible sources. In these instances any remedy which exerts a bland, soothing, emollient, or sheathing effect on the lining membrane of the air-passages will be capable of alleviating the spasm. On the other hand, coughs produced by some constitutional weakness can only be indirectly removed by attacking the disease itself. The two following menstrua may be strongly recommended and their introduction commercially urged. Their separate ingredients are all well known and much used for cough mixtures. Firstly, then, a most useful menstruum for a syrup or linctus is syr. chloroformatus or chloroformated syrup. A preparation of definite and uniform strength should always be used. Four minims of chloroform to each ounce of syrup would doubtless be a good standard formula. Chloroform is an efficient preservative of syrups which will take up, and when saturated suspend, a large proportion of this volatile drug. Chloroformated syrup is much sweeter and often of superior efficacy as compared with the plain menstruum, and is especially indicated in coughs set up by a dry, irritable, or inflamed condition of the throat. It is, however, sometimes complained of as sickly and nauseous by persons who cannot take sweet things. Glycerine may be substituted for syrup if from any cause it should be thought preferable. According to Dr. Ringer, chloroform, in conjunction with morphia or opium, given with a drachm of glycerine, honey, sugar and water, syrup of lemons, syrup of Virginian prune, or treacle and water, is often conspicuously useful in coughs which are paroxysmal and violent out of all proportion to the amount of expectoration.

Secondly, an invaluable preparation for coughs produced by debility, cold, dyspepsia, &c., is glycerin-phosphoric acid. According to Dr. Foster ('Text-book of Physiology,' page 610), it may be prepared synthetically by heating together glycerine and glacial phosphoric acid. For medicinal purposes a uniform preparation containing 4 grains of the glacial acid dissolved in 1 oz. of glycerine is perhaps best, or the syrupy acid (s.g. 1·500) may be used in the place of the solid substance. The dose would be from one to two teaspoonfuls slowly swallowed. The compound possesses a pleasant and agreeable taste; sweetish-acid in character.

Very little is known of the salts of this acid, but there is every reason to believe that they are destined some day to be used, perhaps extensively, in medicine, and to become powerful rivals of the hypophosphites in the treatment of consumption and nervous disorders. Dr. Foster (op. cit.) tells us that the glycerinphosphate of calcium is insoluble in alcohol, soluble in cold water; but a specimen sample of this salt, obtained after some trouble from Germany, did not appear to be at all soluble in water. Physiology demonstrates to us that the functions of the nervous system are mainly carried on by means of complex nitrogenised fats containing phosphorus, of which lecithin or the distearyl-glycerinphosphate of neurin is a type. Hence glycerin-phosphoric acid and its salts may be considered as the most fitting substitutes for these vital stimulants when from disease or other abnormal cause they are deficient in the human body. Moreover, this acid is said to be ordinarily present in the animal tissues and fluids in which lecithin itself is found as one of the products of its decomposition. There is no record that this acid or its salts have ever been used for either medical or pharmaceutical purposes. Nor are they at the present time commercial articles. Perhaps, therefore, some enterprising manufacturer will think the matter over, with the view, possibly, of introducing them, or at all events of experimentally contrasting their action with that of hypophosphites.

Cobalt and Nickel. The *Chemical News* publishes the following letter from Dr. Krüss regarding his discovery:—"I have in fact succeeded in splitting up nickel and cobalt each into two parts, and both these metals have one component in common. In concert with my colleague, I sent a brief notice on this subject to the *Berichte*. The matter communicated in this short memoir has been intentionally kept very scanty, and I gave as little room as possible to speculation for fear of being led to assertions which I might perhaps soon have to withdraw. Meantime, I have fully confirmed our first observations, and we have now about ten different methods by which we can resolve these bodies, hitherto regarded as elementary, each into two parts. We shall soon give a full report on our results, but in the meantime I may inform you, as a curious fact, that we have succeeded in obtaining *green* so-called nickel salts from *red* cobalt salts, and the *colourless* salts of the substance which accompanies both metals, and further, in transforming some green nickel salts into red cobalt salts and other com-

ponents. This may perhaps sound alchemical, but it cannot be denied. As for the spectra of the three components of cobalt and nickel, we have not yet, with the ordinary experimental arrangements, observed any characteristic lines. This is doubtless the reason why hitherto no spectral lines have been found common to pure cobalt and nickel.

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Ergosterin. At a recent meeting of the Academy of Sciences, Paris, M. Tanret announced the discovery of a new principle in ergot of rye. This is a crystallised substance, which closely resembles, and may readily be confounded with, cholesterin; but the careful study made by M. Tanret shows that it differs in its composition both from animal cholesterin and its isomerous vegetable substances. The new principle is described under the name of ergosterin. Its composition may be represented by the formula $C_{52}H_{40}O_2,H_2O_2$. It crystallises from alcohol in the form of little pearly tufts, from ether in sharp needles, and is quite insoluble in water. Like cholesterin, it is a monatomic alcohol, as appears from the analysis of its formic, acetic, and butyric ethers.

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The Queen's Tradesmen. We have had a number of inquiries from subscribers lately for information as to how they may become "chemists to the Queen." This is a coveted appointment held by comparatively few in the trade, and is quite distinct from the appointment so long held by the late Mr. Peter Squire and now by his sons, Mr. P. W. Squire and Mr. A. H. Squire, who, jointly, are "chemists and druggists in ordinary," and are included in the medical department of Her Majesty's household. We have not heard of any who have ventured to rival the Messrs. Squire in this department. Replying to our inquiry as to the method of applying for and the reasons for granting the royal warrants of appointment to tradesmen, the Board of Green Cloth, Buckingham Palace, inform us that "there are no published or printed conditions as to the method of applying for warrants of appointment to tradesmen in the Queen's household. In recent years such warrants have only been granted to those tradesmen who serve regularly in one or other of the household departments. Any others which appear on the printed lists are unexpired warrants granted much earlier in the Queen's reign, when the issue was less limited than in the present times." It will thus be seen that the class of royal tradesmen is a very close concern.

Ointment for Burns.—The *Medical Press* publishes the following formula:—Iodoform, 80 parts; ext. conii, 40 parts; acid. carbolici, 1 part; ung. simplex, 600 parts. Misce.

The Trade of Persian Gulf Ports.—The following articles pertaining to the drug trade were imported into and exported from the two Persian Gulf ports, Bushire and Banderabass, in 1887:—

	Bushire	Banderabass
Imports	$	$
Drugs and medicines	37,000	4,445
Dyeing materials	2,200	—
Glass and glassware	37,000	—
Indigo	200,000	111,000
Spices	55,5[illegible]4	37,000
Exports		
Drugs	14,815	22,000
Dyeing materials	22,000	111,000
Gums	22,000	15,0[illegible]0
Opium	1,777,000	839,000
Seeds (cumin, &c.)	20,000	18,000
Rose water	44,500	—

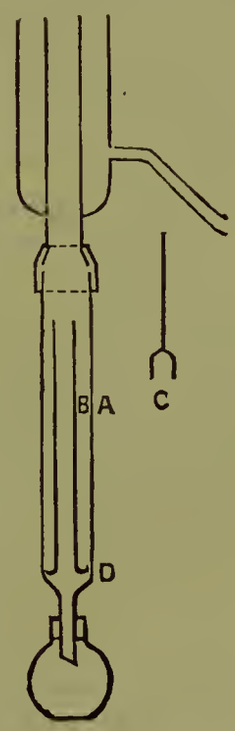
South American Animi Resin.—It is announced that the Government of the Republic of Colombia, in order to stimulate the production and importation of animi resin from that country, has decided to grant an export bounty of 8 per cent. *ad valorem* on all shipments of the resin. The trade is at present concentrated in the hands of a native firm in the department of Bolivar, where it is found in large quantities deposited in the earth as a product of the *Hymenæa Courbaril* and other trees.

A NEW CONTINUOUS PERCOLATOR.

By J. F. Liverseige, A.I.C., M.P.S.

Some time ago I determined the amount of resin in some samples of powdered jalap, of which only a small quantity was at my disposal. Continuous hot percolation with alcohol appeared to be the best method, but the difficulty was in getting a suitable extractor. Soxhlet's apparatus is useless for alcohol, owing to the amount of condensation in the side tube. I tried other forms, but found that whenever the alcohol vapour came in contact with the outer tube of the apparatus before passing the jalap, the extraction was very slow. I then tried passing the vapour through a tube round which the jalap was placed, and found the result an entire success.

The apparatus which I made consists of two distinct pieces, the outer part (A) being a piece of $\frac{3}{4}$-inch glass tubing $4\frac{1}{2}$ inches long, to the bottom of which is joined 1 inch of tubing $\frac{1}{4}$ inch in diameter, with the end cut off obliquely (by a file moistened with a solution of camphor in turpentine); the inner part (B) is a piece of $\frac{1}{4}$-inch tubing $3\frac{3}{4}$ inches long, the bottom being turned out into a flat dish $\frac{1}{2}$ inch in diameter.



For the assay of jalap, the inner tube was placed inside the outer, and a little cotton wool (D) pressed into a ring at the bottom by a glass rod; a small glass cap (C) made of $\frac{3}{8}$-inch tubing, drawn out, was placed over the top of the inner tube, and the weighed jalap (1 or 2 grammes) mixed with sand was put uniformly into the space between the tubes from a piece of paper; any jalap resting on C was sent down by a brush, and C was removed.

The apparatus was connected by a perforated cork to a weighed 100 cc. flask, with a short wide (1 inch) neck containing methylated spirit, and the jalap, which should occupy about half the tube, was wetted with spirit, and packed in the percolator. The flask was placed on a water bath, and the tube connected by rubber tubing to an inverted condenser.

The temperature of the bath may require regulating slightly, so that the alcohol condensed is about equal to that which flows through the jalap and wool; the jalap should always have about $\frac{1}{8}$ inch of alcohol over it.

When the temperature is once adjusted, it requires no further attention till extraction is finished, which is in about two hours. At the end of that time the flask is removed, hot water added, and the alcohol evaporated off on the water bath, during which process most of the resin sticks to the side of the flask. The aqueous extract is decanted, the resin in the flask washed with hot water and drained. The flask is placed on its side in the water oven, dried till constant, and weighed.

An improvement would be to decant through a weighed filter, dry, and weigh the filter with the small portion of resin on it.

If there is any doubt as to the perfect extraction of the resin, it is advisable to attach a second flask and extract another half-hour.

The advantages of this apparatus are:—

Simplicity.—Anyone with a little skill in glass-blowing can easily make it.

Strength.—There are no fragile tubes inside or out to be broken off.

Efficacy.—The jalap is nearly at the temperature of boiling alcohol, and practically all the alcohol vaporised passes through it.

Economy. There is no loss of alcohol in extracting.

Trade Report.

Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., January 31.

BUSINESS has not been of a very exciting character this week, the attention having mainly been concentrated upon two or three articles. In the department of chemicals tartaric acid is showing signs of reviving activity, and citric acid appears not unlikely to follow the example, though cream of tartar remains neglected. Antimony, sulphate of copper, and nitrate of soda are somewhat dearer again, and quicksilver is also a shade better in the second hand. Glycerine is also dearer. Quinine has fallen away still further, and has sold this week at absolutely the lowest official prices ever accepted. Camphor—crude at least—also appears easier, and chlorate of potash holders are somewhat more willing to realise. In drugs there are very few changes to note—cinchona is lower, saffron, opium, and cascara somewhat better, which is all that can be said.

Drysalteries, oils, &c., have been rather active. Shellac seems again returning to something like its former self, and there has been an active movement upwards in gum animi and gambier, while tragacanth has fully maintained the recent advance. Olibanum gum is steady, but Cutch has sold at a reduction, and at to-day's auctions Kowrie gum suffered a decline ranging from 2*s.* for fine to 10*s.* for common qualities. China galls are also easier. The first indigo sales of the year passed off rather satisfactorily, several varieties showing from 2*d.* to 3*d.* advance. Isinglass sold very irregular, the better grades mostly dearer, common kinds easier. Tea is steady. Linseed oil and American petroleum are dearer, but Russian petroleum, palm, cottonseed, and cocoanut oils may be had for less money. In spices, pimento has advanced, while cassia, chillies, Cochin ginger, and mace have declined in price.

EXPORT OF SPIRITUOUS PREPARATIONS.—We hear that a sub-committee of the chemical section of the London Chamber of Commerce had an interview with the authorities at Somerset House on Wednesday, respecting the further concessions considered necessary to make the General Order of November, 1880, workable. The deputation was received in the most conciliatory spirit, and there is good ground for expecting a satisfactory result. The deputation consisted of Messrs. T. Tyrer (chairman of the section), John Moss, A. S. Hill, Prestons, Davies, Dakin, Webb, Shaw, and Umney.

THE NEW GERMAN-INDIAN STEAMSHIP LINE. — It is stated that five new steamers, each measuring 4,400 tons, are now being built for the Hamburg-Calcutta service of this new company. One of the steamers only is being constructed in Hamburg, the other four being built in Glasgow and Sunderland. The company has made an arrangement with Antwerp shipbrokers that 1,500 to 2,000 cubic metres space is to be kept free in each steamer for Antwerp cargo, and that most of the return journeys will be made direct from India to Antwerp. In return for this concession the Belgian Government and the municipality of Antwerp will accord several special advantages to the company.

THE AMERICAN TARIFF QUESTION.—A proposal to establish a permanent tariff commission is now before the United States' Senate. The commission, it is suggested, should consist of five members, to be appointed by the President for the term of six years, at an annual salary of $7,500. They are to have their head-quarters at Washington, and their duty will be to ascertain the effect of customs duties on the wages of working-men, upon the agricultural commercial, manufacturing, and other industrial interests, and, in fact, to become a general bureau of information which is to report to Congress annually.

THE CHINA TRADE.—Cablegrams from Shanghai, dated January 28, report that business in all Chinese articles is temporarily suspended on account of the Chinese New Year celebration.

THE SHELLAC SALES.—At the drysaltery sales on Tuesday Mr. Figgis proposed that in future the order in which the catalogues should be gone through should be settled by ballot in the same way as is done for the drug and other sales, and after some slight opposition this suggestion was adopted.

THE OFFICIAL STATISTICS OF FRENCH FOREIGN TRADE during last year, when compared with the figures for 1887, show a slight increase in the imports (·6 per cent.) and a slight decrease (·85 per cent.) in the exports. The following are the amounts for each year in thousands of francs:—

	1888 1,000f.	1887 1,000f.
Imports.		
Food products	1,485,186	1,405,019
Raw materials for manufacture	1,906,752	1,951,338
Manufactures	545,053	546,762
Miscellaneous	115,914	122,797
Total	4,052,903	4,025,966
Exports.		
Food products	669,270	686,645
Raw materials for manufacture	690,478	695,175
Manufactures	1,656,317	1,677,814
Miscellaneous	194,665	186,835
Total	3,210,730	3,246,499

It is remarkable that the largest item in French foreign trade is that of imported raw materials for manufactures. These amounted in 1888 to 76,270,000*l.* If from this we deduct the value of the raw materials exported (27,619,000*l.*), there is still left a balance of 48,651,000*l.* Thus the net exports of manufactures from France are only just about sufficient to pay for the net imports of manufacturing materials.

IMPORTANT NEW RAILWAYS.—The work of surveying the first section of the Central Siberian Railway was to be finished at the end of last year. It connects the city of Tomsk, in Western Siberia, with Irkutsk, in the centre of the country, on the Chinese frontier. The distance between the two cities as the crow flies is about 800 English miles, and the line, when constructed, will rival if not surpass in importance, the Central Asian Railway. The first section of another important future route for international trade was opened last month in the Portuguese possessions of South-Western Africa under the auspices of a Belgian company. A survey has just been completed for a railway, 200 miles in length, which is to connect the Lower with the Upper Congo, from Vivi to Stanley Falls. It is thought that this railway can be completed in two or three years at the expense of about 1,000,000*l.*

M. DARRASSE (JEAN-JOSEPH), the well-known wholesale druggist of No. 21 Rue Simon-le-Franc, Paris, died on January 17, at his residence at Vincennes, aged 70. Deceased was born in the southern town of Mont-de-Marsan (Landes), and when 18 or 20 came to Paris, where he found employment with M. Jouan, then doing a wholesale business in drugs and miscellanies at the very place which M. Darrasse never left. Through energy and faithful work the young man made his way in the world, graduating in August, 1848, as a pharmacist of the first class at the Paris School of Pharmacy, and becoming a partner in the firm, which from "Jouan et Faure" was hence known as "Faure et Darrasse." As time went on the business became more strictly pharmaceutical, and the old employés of the house were admitted to partnership under the firm name of

"Darrasse et Cie." More recently, three of his sons having successively graduated as pharmacists of the first class, the old gentleman practically retired from business, the firm name being changed to the actual style, "Darrasse et Landrin." The Rigollot plasters became the property of the firm some twenty years since. M. Darrasse was chiefly noted as a hard and pertinacious worker, and also as a kind and just man. The fact that he rose himself from the ranks, and afterwards raised his own employés to partnership, tells more in his favour than any elaborate praise. He leaves eight living children.

ACID (CITRIC).—The price has not actually advanced yet, and 1*s.* 5½*d.* per lb. will still purchase spot stuff. But there is a perceptible improvement of feeling in the article consequent upon the advance in tartaric acid. Forward is held at 1*s.* 6*d.* per lb., though we think that 1*s.* 5¾*d.* per lb. would still be accepted in one quarter at least.

ACID (OXALIC) is steady at 4½*d.* per lb., though the enquiry is limited.

ACID (TARTARIC).—There have been decided signs of renewed activity in this article since last week. The *English* makers would still sell, we believe, at 1*s.* 4*d.* per lb. for spot, but they do not offer for forward delivery; and, in fact, it seems as if they think it will suit their purpose best not to advance too quickly, especially as the foreign makers seem anxious to raise the quotations. For *foreign* 1*s.* 3¾*d.* has, we believe, been paid.

ANGELICA ROOT.—The cultivation of angelica has been greatly reduced on the Continent last year, and altogether scarcely ten tons have been available for drying, the essential oil distilleries having taken the bulk of the fresh crop.

ANISE.—*Russian* steady at the price last quoted. Fine *Levantine* 25*s.* per cwt.

ANTIMONY.—Regulus is now held at 45*l.* per ton. In crude Japanese a fair business is reported at 25*l.*, but a slightly higher figure is now asked.

ARNICA FLOWERS.—On the Continent the price has improved a little lately. The crop has been a good one, but a large number of foreign orders quickly assimilated it, and an advance of 10 to 20 per cent. is now asked.

ARSENIC steady at 12*s.* 6*d.* to 12*s.* 9*d.* per cwt. for white powder, landed.

BLEACHING-POWDER is worth 8*l.* 5*s.* to 8*l.* 10*s.* here, and 7*l.* on the Tyne.

BORAX, unaltered, at 30*s.* per cwt. from the makers, and 28*s.* 6*d.* to 29*s.* in the second hand.

CAMPHOR.—Crude is rather lower, the latest China quotations being 82*s.* 6*d.* to 85*s.* per cwt. "c.i.f." terms. On the spot the nearest quotable price for *Japan* is 92*s.* 6*d.* per cwt.; for *China*, 90*s.* per cwt.; but we hear of no business. The manufacturers and agents of refined camphor make no change in quotation.

CARAWAY SEED.—*Mogadore* seed is generally held at too high prices at present to lead to business; but, on the other hand, a fair trade is reported in good *Russian* seed at 18*s.* per cwt. *Dutch* seed, which is now also cheap, has likewise been in request at about 20*s.* to 27*s.* 6*d.*, according to quality.

CASCARA SAGRADA.—It appears that a few bales only are left in stock in London first hands, and one holder told us to-day that he had refused an offer of 1*s.* 10*d.* per lb. Another importer has none available, but offers a little for shipment, usual good quality, at 10*l.* per cwt. London terms.

CHAMOMILES.—*Belgian* flowers are getting very scarce, only about 20 cwts. in all being left, it is said, in the producing country. The price remains as last quoted, up to 6*l.* 6*s.* per cwt. for the best lots available.

CINCHONA.—The number of packages offered at to-day's auctions was rather smaller than that shown at the first sales of the year, but the deficiency was more apparent than real, being caused exclusively by the absence of the less valuable South American barks. The fourteen catalogues comprised:—

Ceylon bark,.. ..	2,560	packages,	of which	1,665	packages	were sold.
East Indian bark ..	505	"	"	152	"	"
South American bark	397	"	"	178	"	"
Java bark	283	"	"	283	"	"
Jamaica bark ..	14	"	"	14	"	"
African bark ..	39	"	"	7	"	"
Total	3,798	"	"	2,299	"	"

The sales opened very languidly indeed, and, with the exception of a few parcels which were competed for with some slight flickering of animation, dulness reigned throughout. A very large proportion of the parcels offered was bought in, the figures obtainable falling generally considerably short of the limits placed upon the goods, and some of the brokers withdrew several lots at the time without going through the formality of soliciting bids. It is generally agreed that the prices paid were rather lower than at the previous auctions, the average unit being placed at 1½*d.* to 1⅝*d.* per lb. The following are the approximate quantities purchased by the principal buyers:—

	Lbs.
Agents for the Mannheim and Amsterdam works ..	175,192
" the Brunswick works	119,705
" the American, French, &c., makers	101,965
" the Auerbach works	58,014
" the Frankfort and Stuttgart works	39,965
Mr. Thomas Whiffen	38,705
Messrs. Howards & Sons	14,607
Sundry buyers	15,013
Total sold	563,166
Bought in or withdrawn	276,713
Total quantity catalogued	839,879

It is understood that the mere weight of bark purchased affords no guide whatever to the quinine yield represented by it, firms who buy a small quantity of bark by weight frequently taking the richest lots, and *vice versâ*.

The following is the analysis of the sales:—

CEYLON BARK.—The assortment comprised a rather large proportion of succirubra bark, which generally sold at very low rates. *Original*: yellow varieties, root, 4½*d.* to 6*d.* per lb., an offer of 7*d.* per lb. being declined for a good lot; chips and shavings, ordinary and poor, a large proportion, 2*d.* to 4*d.*; fair medium to fine rich, 5*d.* to 9½*d.* per lb. Red varieties: root, 2*d.* to 6*d.*; thin twigs, 2½*d.*; chips and shavings, common to good rich, 1*d.* up to 8½*d.*; split druggists' quill, rather thin, 4*d.* to 5½*d.* per lb. Grey varieties, common weak shavings, 1⅓*d.* to 2⅓*d.*; chips, 3*d.* to 5⅓*d.*; good but broken branch quill, 8*d.* per lb. *Renewed*: yellow chips and root mixed, 1½*d.*; chips, 3*d.* up to 7½*d.* for ordinary to good, and 9½*d.* to 10*d.* for a fine parcel; red, chips and shavings, 2¼*d.* to 6*d.*; grey, chips and shavings, 3*d.* to 7*d.*; a fine lot up to 9⅓*d.* per lb.

EAST INDIAN BARK: *Original* yellow root, 6½*d.*; chips, 4½*d.* to 5*d.*; a fine quilly lot, 11½*d.* per lb.; red chips and shavings, 2½*d.* to 7*d.*; thin twigs, 1½*d.* to 1¾*d.* per lb.; grey: twigs, partly damaged, 1½*d.* to 2*d.* per lb.

JAVA BARK: *Original* yellow branch chips, 4*d.* to 5½*d.*; stem chips, 7*d.* to 11*d.*; a fine lot at 1*s.* to 1*s.* 1*d.* per lb.; root at 6½*d.* to 9*d.* per lb.; ordinary papery to good bold silvery druggists' quill, 3½*d.* to 7½*d.*; red dust and root, 1*d.* to 4½*d.* per lb. *Renewed* yellow chips, 8*d.* per lb.

SOUTH AMERICAN BARK: The auctions were noticeable for the absence of the heavy parcels of old Cuprea and Pitayo barks, which are generally included in the catalogues. On this occasion nearly the whole of the supply consisted of cultivated Bolivian Calisaya quills, of which 144 packages were sold at cheap rates. The following prices were paid: *Yellow varieties*: Bolivian quill, good strong silvery to thin, rather broken, 10*d.* to 6½*d.*; a fine parcel from the Cusilluni plantation, Yungas, being held at 11*d.* per lb. *Red varieties*: common damaged pieces, 2*d.* to 8*d.*; thin colourless quill, 2*d.* to 3*d.*; dark druggists' quill (one bale), 2*s.* 7*d.* per lb.

JAMAICA BARK.—Fourteen bags of grey character, mostly dust, root, and broken branch quill, sold at 1*d.* to 2½*d.* per lb The whole lot weighed only 828 lbs.

AFRICAN BARK.—Thirty-nine packages were offered, imported *viâ* Lisbon, and grown in the island of San Thomé

There were altogether 5,547 lbs., but only seven packages were sold, subject to approval, at 2*d.* per lb. for long, partly broken, thin, red quill. The rest included some fairly good strong red quill.

COPPER (SULPHATE) is still advancing, 26*l.* being asked on the spot, according to quality, and 25*l.* 10*s.* for March delivery.

CREAM OF TARTAR remains very dull at 100*s.* per cwt. for first white.

CUMIN SEED steady on the spot for *Malta*. *Morocco* seed is quoted at 31*s.* per cwt.

CUTCH has declined further since the public sales of last week, good BB flag brand having sold at 27*s.*, and fine *RS*, in tablets, at 25*s.* 6*d.* per cwt.

ERGOT OF RYE.—It is said that very considerable quantities are still in the hands of the first-hand owners in Germany, who calculate upon obtaining much better prices later on.

GALLS.—It is reported that an offer of 57*s.* per cwt. for fair *China* galls "c.i.f. Hamburg" has been accepted, but the latest cables of which we hear (January 26) quote 59*s.* 6*d.* c.i.f. steamer shipment, and 1*s.* 6*d.* less for crushed. In the Hong Kong market the article is reported scarce. On the spot there is no business doing. *China* galls are nominally held at 67*s.* to 68*s.*, and Japan at about 62*s.* per cwt.

GAMBIER.—*Block* is still rising in value, a steady trade being reported up to 27*s.* on the spot, at which figure holders refuse to continue. There are buyers at 26*s.* 9*d.* for December-January shipment, while for January and February shipments that price has been paid. Good *Cubes* 41*s.* per cwt.

GLYCERINE.—The tendency is an advancing one and the agents quote up to 72*l.* for double distilled s.g. 1,260. We hear that a new brand of Italian manufacture is being offered.

GUM ANIMI.—There has been quite a run on this article privately, resulting in sales of between 60 and 80 cases *Zanzibar* at an advance of 10*s.* to 20*s.* per cwt., good medium to bold sorts at 15*l.* 15*s.* to 16*l.* 10*s.*, ordinary weak mixed sorts at 14*l.* to 14*l.* 10*s.*, bean and pea sizes 7*l.* to 8*l.* 10*s.* per cwt. At auction to-day a further advance of fully 10*s.* was obtained, Zanzibar selling at 18*l.* 2*s.* 6*d.* to 18*l.* 10*s.* for good bold amber and pale mixed sorts, 12*l.* 7*s.* 6*d.* to 12*l.* 10*s.* for common red sorts, 8*l.* to 9*l.* 10*s.* for bean and pea; *Demarara*, small partly coated red to bold, mixed, clean red, and yellow sorts 80*s.* up to 6*l.* 15*s.* per cwt.

GUM ARABIC.—At to-day's auctions a very heavy supply of common East Indian gums was offered, but only a small quantity sold, there being scarcely any demand. *Australian*, dark blocky to good pale drop sold at 37*s.* to 54*s.*; *Aden*, good bold palish sorts, 95*s.*; olibanum-scented ditto, 91*s.*; common dark and dirty, 35*s.*; siftings, 25*s.* *East Indian Amrad*, fine bright, 120*s.*; pale clean small siftings, 69*s.*; pickings, 18*s.* to 37*s.*; *Ghatti*, good to fine, 50*s.* to 75*s.*; common woody to dark brown, 26*s.* to 37*s.* 6*d.* per cwt.

GUM TRAGACANTH.—Heavy sales were held on January 25, as announced in our last issue. A total of 2,285 packages *Syrian* gum was offered, of which about 400 sold at fully the private sale rates, the quotations being now: *Bagdad*, firsts, yellow to good pale, 9*l.* to 10*l.* 10*s.*; yellow to good seconds, 7*l.* 2*s.* 6*d.* to 8*l.* 17*s.* 6*d.*; thirds, good to fine, 5*l.* to 7*l.*; common to fair, 85*s.* to 97*s.* 6*d.*; fourths and pickings, 50*s.* to 78*s.*; siftings, 40*s.* to 62*s.* 6*d.*: hog, 20*s.* to 75*s.* per cwt. *Smyrna*, firsts, 14*l.* to 14*l.* 10*s.*; sorts, 7*l.* to 8*l.*; brown flakes, 4*l.* to 7*l.* per cwt.

INDIGO.—The first auction sales of the year were held this week, after having been twice postponed. The total supply offered included 4,867 chests, composed as follows:—Bengal, 1,024; Oude and Plant Oude, 116; Kurpah, 2,201; Madras, 578; Bi lipatam, 566; Bombay, 249; Java, 17; sundry, &c., 116. Of this supply about 3,000 chests were sold at the auctions or immediately afterwards. There was a fair demand for *Madras* of good quality, dry leaf realising an advance of 2*d.* per lb. for the best kinds. *Kurpahs* sold irregularly—Fair to good coloury at 2*d.* to 3*d.* per lb. advance; common at slightly below the last sale rates. *Bengals* steady to 2*d.* per lb. advance.

INSECT FLOWERS.—The quotation for half-closed flowers was given erroneously in our last issue through a clerical error. The actual prices "c.i.f." terms are now:—Open flowers, 172*s.*; half-closed, 192*s.*; closed, 212*s.* per cwt.

IODINE and iodides unaltered.

ISINGLASS.—The auctions held this week consisted of 529 packages, weighing together 112,315 lbs. Prices were altogether irregular, *Brazilian* being rather lower, and dull of sale. *Bombay*, fine qualities firm, pipe occasionally 3*d.* lower; old tongue, 2*d.* to 3*d.* higher; purse, 3*d.* to 4*d.* lower. *Penang*, fine leaf, 2*d.* to 4*d.* dearer; ordinary, 1*d.* to 2*d.* per lb. lower. Fine purse steady; ordinary to medium, 2*d.* to 3*d.* lower.

MERCURIALS are all fairly steady at the last quotations given.

MUSK.—There have been some arrivals *viâ* Marseilles and *Colombo* this week.

OIL (COD-LIVER).—It does not appear that any advantage has been taken of the offer which we quoted in our last issue, viz., that of new season's oil to be shipped from Norway immediately. Up to the present, telegrams state, the weather has not admitted for the fishing-boats to commence operations, but the catch may commence any day.

OILS (VARIOUS).—*Castor oil* remains firm for fine qualities, viz., 4*d.* to 4¾*d.* per lb. for French and Italian, according to brand. Calcutta seconds have sold at 3 3/16*d.* per lb. in Liverpool, and although in India the production is at present small, easier prices are quoted there for forward delivery, increased supplies of seed being anticipated. *Cocoanut* oil has become quieter, and the demand both on the spot and for shipment has fallen off. Ceylon of good quality may be bought for 27*l.* on the spot, and for shipment at about 20*s.* less. Cochin variety is dull at 28*l.* to 28*s.* 10*s.*, and Mauritius entirely nominal at 27*l.* 10*s.* *Cottonseed* oil has become decidedly easier, and is offering at lower rates, refined spot, 25*l.* 10*s.* in ordinary casks; February-April, 25*l.* 10*s.* to 26*l.*; May-August, 26*l.* Crude oil on the spot, 23*l.* 10*s.* Hull quotations are also lower. For *Linseed oil*, on the other hand, more money is wanted, and the tendency is still an advancing one on the spot, 18*l.* 17*s.* 6*d.* to 19*l.* 2*s.* 6*d.* according to packing and delivery, is quoted; February-April is 19*l.* 10*s.*; May-August, 19*l.* 17*s.* 6*d.* to 20*l.* Hull quotes spot, 18*l.*; forward, 18*l.* 5*s.* to 19*l.* (packages not included). *Olive oil* is steady, but without business of any note. Spanish is entirely nominal, nothing being offered on the spot. Italian oil may be had at 35*l.* 10*s.* to 36*l.* 10*s.*, and there are sellers of Mogadore at 35*l.* *Palm oil* has become very dull indeed, fine Lagos offering now at 27*l.*

Petroleum.—American oil has advanced, and closes firm at 6⅝*d.* to 6¾*d.* spot, and 6½*d.* to 6⅝*d.* for February-April. There is now an unusual difference between the price of this oil and of Russian, notwithstanding which the American product continues to find a good sale. Russian oil is dull at 5⅜*d.* to 5 7/16*d.* on the spot and 5*d.* for February-April *Rape oil* quiet at 30*l.* 5*s.* to 30*l.* 10*s.* for brown on the spot, and 30*l.* for February-April. Refined spot 31*l.* 10*s.* to 31*l.* 15*s.*

Turpentine, without demand, and easier, American spirit on the spot, and for February-April, 33*s.* 9*d.* The stock on January 28 was 14,607 barrels, against 12,245 barrels on January 28, 1888. French nominal.

OPIUM.—The present week, as is generally the case with the last of the month, has been a very quiet one, so far as the London market is concerned. For soft shipping opium about 6*d.* per lb. advance is, however, required, *Malatia* being quoted at 15*s.* to 15*s.* 6*d.*, *Tokat* at 14*s.* to 14*s.* 6*d.*, and *Salonica* at 14*s.* per lb. In druggists' qualities no business has transpired. Fine lots are held at 10*s.* 6*d.*, seconds at 9*s.* per lb. *Persian*, 13*s.* to 13*s.* 6*d.* per lb. nominally. In Smyrna, on January 18, the market closed firm, about 300 cases having been sold there since the middle of December at gradually hardening prices. The arrivals for the season up to the former date have been:—

		Smyrna	Constantinople	Salonica	Total
1888-9	cases	3,500	2,950	622	7,072
1887-8	,,	770	627	577	1,974

There has been some slight damage caused to the growing plants, but at the time of the last advices the unfavourable weather had ceased, and new sowings were being actively put in the ground.

POTASH SALTS.—*Bichromate* is very steady at 4½*d.* per lb. *Chlorate.*—A moderate business having been done, the article has eased off slightly, and at the close there are sellers at 5⅜*d.* per lb. *Prussiate.*—There has been a somewhat better demand, but the article closes dull at 6½*d.* to 6¾*d.* per lb., according to brand, for yellow; red, 1*s.* 7*d.* per lb.

QUICKSILVER.—The following figures are given as representing the annual output of quicksilver from the principal mines:—

Origin	1888 Bottles	1887 Bottles	1886 Bottles	1885 Bottles
Spanish* ..	53,243	51,011	48,537	45,813
Italian*	10,460	7,400	8,090	7,888
Austrian	14,000	14,000	14,000	14,370
Californian ..	28,000	33,760	29,981	32,073
Borneo** ..	1,559	1,559	1,559	1,559
Total	107,262	107,720	102,167	101,703

1884 Bottles	1883 Bottles	1882 Bottles	1881 Bottles	1880 Bottles	1879 Bottles
48 098	49,177	46.716	44,989	45,322	42,672
8,040	5,340	5,382	3,741	2,459	3,212
14,680	13,700	12,000	11,700	10,870	12,600
31,913	46,725	52,732	60,851	59,926	73,684
1,559	1,559	1,559	1,559	1,559	1,559
104,290	116,501	118,389	122,840	120,136	133,727

* From November to November.

** Average production.

The market has shown little fluctuation this week. The importers still quote the nominal price of 9*l.* 10*d.* Second-hand holders have gradually crept up from 8*l.* 5*s.* to 8*l.* 7*s.* 6*d.*, closing again at 8*l.* 6*s.* 6*d.* per bottle.

QUININE.—Early in the week the price of *Howards'* brand was reduced 2*d.* per oz by the makers, who now quote 1*s.* 8*d.* for bottles, and 1*s.* 6*d.* for bulk in quantities. *Whiffens'* is quoted at 1*s.* 5*d.* for bulk. There has been a rather important business (so, at least, it is reported) in German brands in bulk, several transactions of 10,000 and 20,000 oz. lots each being talked about. The *B&S* agents are said to have been the principal sellers, and the quotations accepted by them have declined from 1*s.* 3½*d.* for May-June delivery to 1*s.* 3*d.* for February, and on Wednesday to 1*s.* 2½*d.* per oz., the lowest official price on record, at which they are said to have sold 20,000 oz. for February-March delivery, another 10,000 oz. being reported sold by them to-day at the same figure. *Brunswick* is said to have sold for August delivery at 1*s.* 3*d.*, and *Auerbach* for April-May, also at 1*s.* 3*d.* per oz. at the beginning of the week, but the agents will now also take 1*s.* 2½*d.* *Jobst's* and *Zimmer's* brands have sold at 1*s.* 4½*d.* lately; these makers do not take part in the speculative movement.

SAFFRON.—Still tending higher at 55*s.* to 60*s.* for best to finest Valencia.

SHELLAC.—The market last week closed rather quietly though steady in feeling on the spot, but the trade preferred to await the result of the auctions on the 29th inst., which it was known would be very large. For delivery there was a momentary decline of 3*s.* on Monday on the part of sellers, but no business transpired. Tuesday's auctions were among the heaviest held here of recent years, the catalogue being made up of—

Orange lac	2,070,	of which	1,653	were sold
Garnet „	1,098	„	967	„
Button „	508	„	463	„
Total	3,676		3,083	

Previous to the auctions there was some fear expressed that this heavy supply would prove too much for the market, and privately business had practically been at a standstill from the beginning of the week; but it soon transpired that buyers were fully prepared to assimilate the large quantity offered, and about 80 per cent. of the whole was disposed of, among keen competition, at an advance, as compared with the previous week's auctions, of 5*s.* on *Orange* lac, fully 3*s.* on *Garnet*, and 3*s.* to 4*s.* on *Button*, which, owing to its scarcity, especially in fine grades, is rising even more rapidly than the other varieties. The auction rates were fully 2*s.* in excess of the highest prices paid privately before the sales. The following is the analysis of the auctions:—*Orange lac*: Fine pale DC, 86*s.*; BSLS, fair to good, 84*s.* to 86*s.*; G in double triangle, 84*s.*; good pale but curly and cakey H in diamond, 80*s.* to 82*s.*; fairly bright but blocky VSO, 78*s.* to 80*s.*; fine bright and strong second orange, 76*s.* to 78*s.*; fair to good reddish and curly, 72*s.* to 75*s.*; dark, dull, or livery, 68*s.* to 72*s.*; low and common, 60*s.* to 62*s.* per cwt. *Garnet lac*: The large supply sold freely at 63*s.*, rising to 64*s.* for good free A.C., and 62*s.* for cakey ditto; block bringing from 55*s.* to 59*s.* Good free OCC sold at 61*s.* to 62*s.*; fair but cakey AT at 58*s.* to 59*s* per cwt. *Button lac*—Firsts, superior blood, 91*s.*; fair pale firsts held at 87*s.*, an offer of 2*s.* less being refused; rather mixed to good pale firsts sold at 82*s.* to 89*s.*; seconds at 73*s.* to 78*s.*; thirds at 70*s.* to 73*s.*; and fourths at 58*s.* to 63*s.* per cwt. After the close of the auctions a very firm feeling prevailed, and on Wednesday and to-day a large business was done at a further considerable improvement in prices. *Orange*—Fine H in diamond, 85*s.* to 86*s.* (cash terms); second, fair to good, 76*s.* to 78*s.*; for delivery—TN, March, 78*s.*; April, 78*s.* 6*d.* to 79*s.* 6*d.*; May, 79*s.* to 80*s.* *Garnet*—Spot, AC, 63*s.* to 65*s.*, an offer of 66*s.* per cwt. being reported refused for 100 cases to-day; delivery—February, 65*s.* 6*d.*; for arrival near at hand, 65*s.* "c.i.f." *Button*—Firsts, 88*s.* to 90*s.*; seconds, dull to fine, 78*s.* to 87*s.* per cwt.

SODA SALTS.—*Bicarbonate* finds buyers at 5*l.* 5*s.* ex warehouse. *Ash* is firmly held at 1¼*d.* per degree here and 1*d.* on the Tyne. *Caustic* cream, 6*l.* 15*s.*, white 60 per cent. 7*l.* landed. *Crystals* 48*s.* to 48*s.* 6*d.* in London, and 41*s.* to 41*s.* 6*d.* on the Tyne. *Nitrate* very firm, but closing slightly easier at 11*l.* 2*s.* 6*d.* to 11*l.* 7*s.* 6*d.*, according to quality.

SPICES.—*Arrowroot* shows no sign of improvement, medium St. Vincent selling at 1⅞*d.* in a small way, and good at 2⅜*d.* per lb. *Cassia Lignea*, of which the stock is 197,362 cases, an unprecedented total, is only saleable at lower rates; a small lot in Wednesday's auction only realised 20*s.* for fair whole; and about 1,000 boxes broken at 14*s.* per cwt. *Chillies* only realise 35*s.* to 35*s.* 6*d.* for fair reddish Zanzibar, a slight decline on recent rates. *Cloves* have sold privately at 9*d.* per lb. for Zanzibar, both on spot and for arrival, but at auction little attention was paid to the small supply offered. Exceptionally fine bold bright selected Ceylon sold at 1*s.* 3½*d.* per lb.; ditto Penang at 1*s.* 3¼*d.* per lb., and fair medium at 11¾*d.* Cochin *Ginger* has declined somewhat in value; small wormy rough ends, 15*s.*; small cut, 25*s.* per cwt. *Mace* is also dull of sale, and lower rates are accepted for common qualities, fair to good red; wild Bombay, 7⅞*d.* to 10*d.* per lb.; West India, pickings to good bright, 1*s.* 11*d.* to 2*s.* 5*d.* per lb. *Nutmegs* slow of sale; Penang (112 to 114 to the lb.), 2*s.* 2*d.* to 2*s.* 1*d.*; Bombay (79 to 103), 2*s.* 5*d.* to 2*s.* 2*d.* per lb. *Black pepper* has remained quiet, with transactions at 7⅛*d.* to 7¼*d.* for grey to good washed Singapore on the spot; Ateheen, slightly dusted, 5⅝*d.*; sifted Penang, 5⅞*d.*; bright washed Ceylon, 7*d.* per lb. For arrival, Singapore has sold at 7*d.* per lb. *White pepper*, after having been in fairly good demand privately, has become rather dull. The transactions include: Penang—Spot, common to good, 9⅝*d.* to 10*d.* per lb.; arrival, 9⅞*d.* to 10⅛*d.* per lb.; fine washed Singapore, 11¾*d.* per lb.; fair Siam, 11*d.* per lb. *Pimento* is about the only spice which has advanced in price, an active demand having occurred both privately and at auction. Prices have advanced fully ⅛*d.* per lb., and now stand as follows: dull to fair, 3*d.* to 3⅛*d.* per lb.; good bright, 3 3/16*d.* to 3¼*d.* per lb.

THE AMERICAN MARKETS.

NEW YORK, January 19.

DURING the week under review trade has made very satisfactory progress among importers and jobbers, and the effect upon the market is noticed in stronger expressions regarding merchandise values, and in some cases a hardening tendency has been produced.

ACID (OXALIC) has again been advanced to 9½c. to 10½c. as to quantity.

ACID (TARTARIC) has declined, crystals now offering at 38c. to 40c. as to quantity, and powdered 39c. to 41c. This decline arises from the cream of tartar troubles.

ALOES.—*Curaçao* are still held at 4c., and *Cape* at 4¾c.; but no additional important sales have transpired.

ARSENIC (RED) has been advanced to 7c. for both spot and February delivery.

BALSAM COPAIBA is held confidently in anticipation of a further rise in price; but there appears to be sufficient stock available from outside hands to meet moderate requirements, and at values slightly below those demanded by the house controlling the bulk of the stock, say 57½c. to 60c., and 62½c. to 65c. for Central American grade.

BICHROMATE OF POTASH is selling in rather an indifferent manner at 12½c. for Scotch,

CANTHARIDES.—*Russian* has declined in this market to $1.12½, due, it is said, to a lower lay-down cost. The demand has not been stimulated by the reduction.

CHLORATE OF POTASH in crystals meets with an exceedingly slow sale, but 14¾c. is the lowest open quotation.

COCOA BUTTER has developed a decidedly weaker tone, due to continued free offerings of stock to arrive from London. *Dutch* 1 has sold to arrive at 31½c., and upon the spot can readily be obtained at 32c., while for *Cadbury's* 33c. is quoted as acceptable.

CREAM OF TARTAR has undergone another decline, and the war of the manufacturers is being pushed with energy. The new prices current are 24c. for crystals in lots of 20 casks, 24½c. for 5 casks, and 24¾c. for less quantities; powdered ¼c. to ½c higher.

ERGOT OF RYE is dull, but the price is maintained steadily at 28c. to 30c. for *German* (*Russian*) and 40c. for *Spanish*.

INSECT POWDER continues to sell liberally for future delivery at 35c. for open-flower stock, and 40c. for closed, and as these figures are said to be below the actual cost of the goods laid down, one house is monopolising the bulk of the business.

OILS (ESSENTIAL).—The market has developed few features of interest during the week. *Peppermint* has entrenched itself in strong position. The greater portion of the stock of H.G.H. is now closely concentrated, and it would be difficult to obtain any important quantity under $3.40, while the Wayne County "King" has fixed his limit at $3.50 as strictly inside. Bulk stock has sold more freely, transactions aggregating some 3,000 lbs., Western having been reported at about $2.15; the market closed to-day firm at $2.20 to $2.25 for Western, and $2.30 to $2.35 for Wayne County. *Sassafras* has improved somewhat. Sales have been made at 42c., but for additional lots 43c. and 44c. is now required.

OPIUM is doing better, influenced by an increased demand and firmer advices from Smyrna. High test is attracting more attention, and, being in comparatively light supply, is held confidently at $2.20 to $2.25 in bond, within which range some business has recently been accomplished. The lower grade goods have sold quite freely the past week, and the result has been that holders have advanced their ideas to $2.0 to $2.5, and are not free to offer even at these improved figures.

QUININE has been unsettled, though the tendency of the market has been towards a stronger basis. For the greater portion of the period under review there has been a hesitancy to meet buyers of round lots, but occasionally sellers would relax, and, with the assistance of foreign agents, full advantage was taken of the opportunities as presented, and the result has been a considerable business completed. The transactions aggregate fully 75,000 oz. German in large bulk, brands including "Gold and Silver," Brunswick, and B & S, for which 29½c. to 31c. was paid. A moderate portion of this quality consisted of store stock, but the larger percentage was contracted for shipment during January, February, and March. The market closed with the feeling decidedly stronger. P & W have shown a disposition to lower their ideas to a point nearer the market, and have revised quotations, so that they now stand 38c. for large bulk, 40c. for 5-oz. tins, and 45c. for vials.

ROOTS (MEDICINAL).—*Ipecac.* is scarce and firm at $1.75 to $1.80. *Jalap* is doing better, with 13c. now asked. Western *Senega* has advanced to 60c., owing to the small supply and scarcity of prime grade.

SHELLAC.—The demand for this article has been very active the past few days, though it has been chiefly speculative in character. Dealers have actively sought to secure all available spot stock, and have succeeded in obtaining some 1,200 cases, all kinds, for which they paid upon the basis of about 16½c. and 17c. for *Orange*, TN quality. They next turned their attention to goods to arrive and forward shipments, and increased their purchases some 1,300 cases, making the total operations fully 2,500 cases. The market to-day certainly reflects a strong tone, and the indications point to a further material appreciation in the value. DC is now held at 23c., and VSO 20c.

THE GERMAN MARKET.

HAMBURG, January 29.

ANOTHER week has passed with only a very moderate business in drugs and chemicals, but dealers and importers are still looking hopefully forward to a busier time in the near future. The demand, in spite of the low prices of most articles, continues light, and only small sales have come under our notice.

The prices in this column are given in marks (11¾*d.*) per 100 kilos. or per kilo (1 kilo. = 2 lb. 3½ oz., 50¾ kilos. = 1 cwt.). The prices in parentheses show the parity in London.

AGAR AGAR.—No prime lots have been offered. Prices are firm, 1.85m. to 1.95m. according to quality.

ALOES.—*Curaçao* dull and very cheap, a heavy supply being offered at 40m. to 45m. (22*s.* to 25*s*).

ARAROBA.—Fifty cases are in the market, and 3.75m. to 4m. must be quoted.

BALSAMS.—*Copaiba* has made a further advance, and is now held at 4.60m. to 4.75m. (2*s.* 5*d.* to 2*s.* 6*d.*) Delivery offerings command full prices. *Peruvian* is still easy, without any effort to procure better prices. Genuine qualities can be had at 7¾m. to 8m. (4*s.* to 4*s.* 3*d.*). *Tolu* very quiet.

BARKS.—*Cinchona.* The latest arrival of 48 packages of flat Calisaya has realised at high prices, 4m. to 4½m. Of Porto Cabello bark 140 bales *ex Thuringia* were offered and sold at very steady prices, from 130m. to 140m. The entire supply of Lima bark (200 packages) has found buyers. *Condurango.* It is said that there is a slightly firmer feeling in the market, but prices are still unchanged from 1.30m. to 1.40m.

ERGOT OF RYE is in moderate demand, but steady in price, from 2m. to 2.25m. being quoted.

GUM ELEMI.—Fine qualities remain exceedingly scarce and dear: 75m. has been paid.

JALAP.—As supplies are becoming smaller, prices show more firmness, and for sound *Vera Cruz* 110m. is wanted, 105m. being refused.

MATICO.—The steamer *Celia* has brought us a lot of 28 bales, for which 125m. is asked.

MUSK SEED.—A rather considerable assortment, viz., 3,500 kilos. of good quality was offered at 95m. to 110m., according to quality.

NUX VOMICA.—1,600 lbs. are offering at 19m.

OILS (ESSENTIAL).—*Star anise* dearer. *Cassia* small stocks only 7.80m.; steamer shipment, 7.20m. *Cinnamon leaf* neglected, 4.50m. American *Peppermint* firm. N. G. Hotchkiss' quoted 14¼m.

OIL (COD-LIVER) without business. Steam refined 55m. to 60m. per cask.

QUININE is again lower. There is very little doing in the article.

ROOTS.—*Calumba*: Fifty bales sold well at full prices. The second-hand quotes 32m. to 45m., according to quality. *Sarsaparilla*: Honduras is in good inquiry, and prices very steady.

WAX.—*Japan* weaker, 96m. *Bees'*: Chilian sells pretty well at steady prices, 117m. to 118m.; Zanzibar, 90m. to 92m.

Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish: if you do not, please use a distinctive nom-de-plume.

Write on one side of the paper only; and devote a separate piece of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers, please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulæ consult the last volume, if you have it.

Letters, queries, &c. will be attended to in the order received.

Dental Advice.

SIR,—"Fides" is quite right in warning "Lux" respecting "Dens's" advice to use cocaine injection in preference to administering gas. I have the cocaine and hypodermic syringe; but alarming results have so frequently been reported—some assert through impurity of the drug, whilst others assert the idiosyncrasy of the patient—that I have never used it. "Dens's" assertion that the worst stump is easily extracted by the use of cocaine must be taken *cum grano salis.* The stump will be just as difficult to extract, but probably the patient will be less restive. I suppose "Dens" has had cases where he has been baffled. I have, and so have some of the best operators I have known.

"Fides" must be warned that nitrous oxide gas is not a plaything, and all who use it need beware of their responsibility in using it. True, it is considered the safest anæsthetic; but if "Fides" had a case that succumbed, and it was proved he was alone during administration and operation, he would be censured, especially if he had administered more than once to the patient in the day. I refuse two administrations in one day, and recommend two days to elapse prior to a second administration. As to the feasibility of removing three teeth at a time, I removed the other day sixteen teeth and stumps at one sitting, and on the second visit five; and I have known more than that done.

To sum up—in administering gas the administrator judges by the conjunctiva insensibility, the pulse, stertorous breathing. In operating care must be used that no tooth accidentally slips into the throat, as there is danger of it falling into the trachea. Also before administering see the gag is so placed between teeth that the offending ones can be removed without trouble; also have the gag or gags tied by stout string to a large cork, so that in the event of the gag slipping—which sometimes occurs—there need not be any fear of it getting into the throat. Another very necessary precaution is to see that the patient's neck is free from closely-fitting articles of attire, that free breathing be not impeded. Operate on the worst teeth first, as I frequently find the patient on coming to trusts to me to remove the less offending ones with or without a local anæsthetic.

Yours truly,
ATTRACTION. (54/232.)

"Cave Canem!"

SIR,—I thank both you and Mr. Frederick Davis for the warning in last Saturday's CHEMIST AND DRUGGIST respecting the "Reporting Dodger." I received a visit from him late on Saturday night, when he went through the performance mentioned in Mr. Davis's letter, but he omitted to ask for his "tip," which would have been of a different nature from the one he looks for.

I wished to detain him, but regret that my apprentice was unable to bring up a policeman in time, and I could not persuade the "reporter" to wait until I had finished serving several customers who came in during the interview.

I hope that some other chemist may be more successful in that respect. Yours truly,
393 Mile End Road, E., J. H. GRADIDGE.
January 28.

Aqua Menthæ.

SIR,—"Reseda" evidently differs from me as to the precise significance of the "law of averages," but I do not think that affects my argument. It is the average opinion of medical men as a class that I consider useless on this question, and a rule based upon it is likely to be very misleading. To select the small percentage of prescribers who habitually write "aqua menthæ" and to inquire their intention, I should not designate taking an average opinion; but an accumulation of such information, together with a knowledge of the customs prevailing in different districts as disclosed by this correspondence, will make it easy for a dispenser to decide which to use. Each case must be considered upon its merits; no single rule will admit of universal application. This answers the first portion of "W. R. M.'s" query; in cases 2 and 3 I should use peppermint, for the simple reason that I have never known "ol. menthæ" or "mint" lozenges to be ordered with any other intention.

I trust that those of your readers who find "aqua menthæ" repeatedly emanating from a single source will take the trouble to find out exactly what was meant, and communicate the information through these columns.

Yours very truly,
35 Clifton Road, Maida Vale, W. R. H. PARKER.

SIR,—As this matter is not finally disposed of, I venture to give my recent experience. Last week I dispensed a prescription written by a Buxton doctor, and made up in that notable town, and subsequently in Kensington. It contained ol. juniperi and sp. ammon. ar., and the diluent was "aqua menthæ." I used the "viridis" in accordance with my custom, and was gratified on inquiry to-day to find that the flavour of the mixture was exactly the same as the previous compoundings had had. To-day, also, I dispensed a Birmingham prescription containing "aq. menthæ"; but at the request of the patient substituted "piperitæ" for "viridis." Yours truly,
January 28. HEDER.

SIR,—I am inclined to think "Menthol" correct in stating he should use aq. menth. vir. for aq. menthæ, unless, as he states, the prescriber is known to mean aqua menth. pip. I find it the custom of the older medical men about here (South) to order aq. menthæ, meaning spearmint. In the other cases, aq. menth. vir. and aqua menth. pip. are plainly prescribed. In looking over a number of old works in which aq. menthæ occurs, I find they invariably mean spearmint water. The following is a form from Quincey's Dispensatory:—"L. D. aqua menthæ, simple spearmint water. Take of spearmint leaves, dried, a pound and a half; water, as much as is sufficient to prevent burning. Draw off by distillation one gallon." FACTA NON VERBA.

Tinct. Zingib. Fort. *v.* Essence of Ginger.

SIR,—One of the articles likely to be brought under the notice of the Revenue authorities is essence of ginger. Can a chemist legally sell in the ordinary course of business an essence made from an old recipe of the firm, with the strongest brandy in the place of S.V.R.? Made thus the flavour is finer and more grateful. In the B.P. "essence of ginger" is given as the synonym for "tr. fort." My advice to this firm is to sell it only under a stamp, and to supply the ordinary preparation over the counter.

Yours truly.
HEDER.

Looch Blanc (Potion émulsive gommée—Look album).

Our Paris correspondent writes:—"The first formula supplied in the last number of THE CHEMIST AND DRUGGIST (p. 145) is correct, so far as ingredients are concerned, and the second (p. 148) is somewhat out of the way; but both are deficient, inasmuch as the *modus operandi* is not given. The omission is important, as the French looch should not be made like the B.P. mistura amygdalæ, but as follows:—Rub the almonds—previously blanched—in a mortar with most of the sugar until a smooth paste is obtained, and gradually add the water to make an emulsion which is to be strained. Now in a dry mortar rub together the remainder of the sugar and the powdered tragacanth, add a small portion of

the emulsion, and beat the whole briskly and for a long time, or until the gum forms a smooth mixture with the water. Finally, pour in the remainder of the emulsion and the orange-flower water. The looch should weigh 5 oz. When mineral kermes is to be added to the looch, it should be rubbed with the dry sugar and tragacanth. When calomel is to be the addition the Codex directs that no bitter almonds should be used; or, better still, that an oil of almond emulsion be substituted."

Polysolve.

SIR,—On page 72 of your honoured journal of January 19, there is an article on "Polysolve" by Mr. H. Wilson. Permit me to call your attention to the fact that polysolve, according to experiments by R. Kobert (vide *Therap. Monatshefte* and *Drogisten Zeitung*, February 8, 1888), is certainly not harmless, as it is reported to be, but can only be employed with the greatest carefulness. According to Kobert's experiments on frogs and warm-blooded animals, solvin causes violent general poisoning, which can only be compared with that caused by the substances belonging to the saponin group. My reason for writing to you is that, according to the recommendation of Mr. Wilson, solvin might be used frequently, to the great harm of the patients.

Yours respectfully.

Brünn, January 21. DR. S. MIERZINSKY.

Hopeful.

SIR,—This is a day of combinations: in all markets we see syndicates controlling prices, and this seems to be the natural remedy for undue competition. I would suggest a patent medicine syndicate, as I believe the day for concerted action between proprietors and vendors has arrived. Judging from what is known respecting the decreasing sales of this class of goods, evidenced by the statements of directors and the vanishing dividends in those formed into companies, it may be surmised that owners are feeling the influence of cutting prices in diminished returns equally with retailers, for all over the country the sales are being made by reluctant vendors who, where possible, push their own goods. If this be the case a meeting of the heads of the patent houses with leading members of the trade and the principal manufacturers might formulate some scheme such as the following:—Owners to guarantee that they will not supply any dealers unless they agree to sell at the published wholesale prices (to vendors only). Any dealer infringing this to be liable to a heavy penalty recoverable at law. (2.) Wholesale dealers to agree to sell to their customers on the same terms as above, invoicing goods at selling prices, and intimating on the invoice that if sold under the published price no discount would be allowed.

If most of the manufacturers agreed there is nothing they could not do, for their business is unique; they could dictate what terms they chose, there being scarcely any competition amongst them. If some arrangement is not soon come to, the patent trade will soon go to the dogs; for, what with reductions in selling prices and advances in buying, the margin for profit grows "small by degrees and beautifully less"—soon it will require better eyes than I possess to see it.

Yours faithfully,

ESS. LIMONIS.

Hopeless.

SIR,—To my mind such meetings as that recently held at Sheffield, and on which you commented last week, are ominous and painfully instructive. After so many years of special legislation and training, that a body of men should have met and decided to contest the share of a bone with the grocer, shows that the men sent to care for our interests at Bloomsbury Square have proved unnatural parents. Are we to understand that the trade has been sweetly humbugged; that all our labours have been useless; that when it comes to real fighting for bare food the "scientific" cartridge will jam in the "professional" rifle, and that we must trust to our fists—that is, to our natural wit and energy at the finish? Special knowledge and training is not required to an extent sufficient to produce a living, and we are carefully untrained for a contest in cut-and-thrust competition, and very few average chemists have the capital necessary. Sanitary science, the factories, and the doctors are gradually relieving the chemist of his just rights, and it is also pretty clear that the democratic growth of the age has increased, and will still further increase, the demand for cheaper physic. It is useless to blind ourselves with hope, for, like the apothecary, a majority of the present chemists must retire before the pressure of capital on one side and special personal endowments and street position on the other. We may all do a little with "specialities," but there are abundant proofs that the world cannot support many Beecham's or Eno's; they are a species of natural selection or opportunists. It is useless for the average druggist to expect an increase in the sale of "patents" by reducing prices now that low prices are a rule. When first started, success arose from the fact that one man skinned all the others.

The Stamp Act is a great hindrance to chemists in poor localities, and its repeal should be urged by all desirous of profiting by their special knowledge of drugs. Factory goods are to be the order of the day, and when physicians prescribe them surely the local chemist may make and issue his handbill to the people direct. They are as capable of estimating the value of an article for their own symptoms from the circular as the doctor. Without the stamp a lively trade could be done in small quantities that is impossible now.

No class or interest has had so much legislative attention with so little benefit. There are about a dozen Acts of Parliament controlling the action of chemists, and the only advantage is that of dispensing and the very questionable sale of poisons, and both carry an amount of responsibility out of all proportion to the profits.

KESTREL. (236/21.)

New Pharmacy Laws.

We have received a communication from the Major class of the Westminster College of Pharmacy regarding the discovery of certain new laws which have, it is said, a controlling influence upon the existence of Major men. The following are the principal of the laws, which have provisionally been named "Arden and Johnson's laws;" and it is said that, in spite of a diligent search, no exceptioms to them have been discovered—

1. The weight of a Major's arguments is in inverse proportion to the volume of his gas.
2. The temperature and boiling-over point of a Major rise in direct proportion to the specific gravity of the liquid with which he is saturated.
3. The respectability of a Major varies as the distance of the Square he lives in.

Proprietary Articles and Chemists.

SIR,—In your last issue Messrs. Powell & Co. (Swindon) state that those who do not sign their agreement will have to pay 2*s.* 8*d.* for 2*s.* 9*d.* size, and 4*s.* 5*d.* for 4*s.* 6*d.* size, whereas Sanger's latest list shows they can supply anyone with Moonseed Bitters at 2*s.* 2¼*d.* and 3*s.* 8½*d.* respectively. Perhaps Messrs. Powell & Co. will explain, and oblige their old AGENTS. (232/70.)

[Would it not have been reasonable for "Agents" to ask Messrs. Powell direct for an explanation? We did, and we have their reply pointing out "that the wording of the agreement shows that we have no power at present. The wholesale people have not much in stock, and we hope they will clear out by March 1, when our agreement dates from. Any way, they will have no more, except on the terms announced. We shall send all goods direct, or through Messrs. Edwards, who can only supply those who have signed our agreement."]

Messrs. Coleman & Co. (Limited), Norwich, write in reference to the Birmingham medicinal wine case reported by us at length last week. They say, "There seems to us to be no doubt whatever that the Excise will win upon all cases where medicated wines can be drunk as a beverage, and, therefore, it would be far better that the chemists should accept the situation as we ourselves as manufacturers

have done, and fall in with the requirements of Somerset House." They proceed to show that chemists can save themselves from such prosecutions by simply taking out a wine licence, and they remind us of their own offer to pay for the licence for purchasers of six dozen of their article.

Messrs. Bayley & Co., 17 Cockspur Street, London, W., ask us to state that Hemet's dentifrice, Hemet's essence of pearl, and Pyrmont tablets, which in Mr. Alpe's "Handy Book of Medicine Stamp Duty" are printed among those medicines named in the schedule of the Medicine Stamp Act as being "no longer procurable," are their property, and are still supplied by them.

SIR,—We observe on page 133 of your issue of January 26, you speak of Mr. Vincent Wood as "the originator of the medicated pine-wool felt goods." It may interest you to know that we have sold for over five years pine-wool chest-protectors, not made nor originated by this gentleman, and on a comparison of dates you will find that his have been introduced a long time subsequently to ours.

We are, sir, yours obediently,
Aldersgate Street, London, E.C. LYNCH & CO.
January 29.

The Chemists' Aërated and Mineral Waters Association (Limited).

SIR,—I must take exception to some remarks in your issue of January 26 on the subject of the last report and balance-sheet of the above company, copied from the *Citizen* of January 19.

I pass over the *Citizen's* critic's objection to the form of the accounts. They are prepared in a form which has met with the approval of the shareholders of the company for many years past, and the object of presenting the accounts in the form adopted is to enable the shareholders to see the result of the working of each of the branches. The *Citizen's* critic is, of course, entitled to his own opinion on the subject, but the directors must study to meet the views of their shareholders.

But when the *Citizen's* critic proceeds to say that the company has not earned its dividend (for that, I take it, is the practical effect of his allegation that the dividend has been paid out of capital), he makes a most serious and unjustifiable charge, to which I take the strongest exception.

The certified profits for the year dealt with by the report amount to 1,634*l.* 9*s.* 2*d.*, out of which no less than 868*l.* was set aside for depreciation of plant and other assets, the balance being appropriated to pay the dividend of 5 per cent. free of income-tax. Yet on the face of these facts which appear on the accounts, the *Citizen's* critic does not scruple to say that the dividend has been paid out of capital.

He arrives at this reckless opinion by marshalling the figures from the company's account in his own way, and alleging that the item 699*l.* for preliminary expenses should be treated as a loss. But the *Citizen's* critic must be perfectly aware that it is the invariable custom to enter this item as an asset, and though it may suit him to call it loss, his doing so does not make it so. His suggestion, apparently, is that the whole of this item should have been discharged out of the profits of the present year. But is this a reasonable suggestion? Is it not always customary to pay off this item by degrees? This is the course that the company has adopted, and the item has in this manner been reduced from 4,000*l.*, or thereabouts, to its present amount. In the balance-sheet now in question it is shown that the item is reduced for the present year by 331*l.*, viz., from 1,030*l.* to 699*l.* In the ordinary course the remaining balance will be shortly discharged.

The comment as to the profits representing only 4·72 to the capital is misleading. The 765*l.* 7*s.* 8*d.* appropriated to dividend represents 5 per cent. per annum, free of income-tax, on the capital entitled to dividend for the time being paid up.

As the strictures of the *Citizen's* critic are calculated to do injury to the company I shall feel obliged by your inserting this letter in your next issue, and since you have quoted in your columns a criticism adverse to my company, I will ask you in fairness to reproduce the following observations from *The Financial News* of November 9 last, which show, at all events, that the view taken by the *Citizen's* critic of our accounts is not universal:—

The Financial News, Friday, November 9, 1888.

This year has been a bad one for aërated-water manufacturers, thanks to the cold summer; but, in spite of it, fair profits seem to be made in this business. The report and accounts of the Chemists' Aërated and Mineral Waters Association (Limited) show that a dividend of 5 per cent. has been earned in this, the tenth year of its existence, as against 7½ per cent. last year. The association, which is unknown to the public as an investment, is to be commended on the admirable manner in which the accounts are presented to the shareholders, the position of each of the three manufacturing establishments being separately shown, as well as the general situation of the association, in very clear form.

I am, sir, yours truly,
H. T. BUTLER, Secretary, the Chemists' Aërated and Mineral Waters Association (Limited).
45 Gifford Street, N.

DISPENSING NOTES.

The opinions of practical readers are invited on subjects discussed under this heading.

A Citrate Mixture.

SIR,—Can the following mixture be dispensed without its depositing a small quantity of star-shaped crystals after a few hours' standing?

Ferri et quin. cit.	gr. 24
Acid. citric.	gr. xx.
Sodæ citrat.	ʒij.
Sp. chloroform.	ʒj.
Glycerin.	ʒiij.
Aq. ad	℥vj.

M.

ERNST. (238/51.)

A Sulphur Application.

SIR,—How can the following be made presentable:—

	Oz.
Powdered sulphur	½
Tincture of cantharides..	2
Olive oil	½
Oil rosemary	¼

I used sulph. præcip. First I rubbed the sulphur with the oils, and then added the tincture. The sulphur at once aggregated into a pasty, indiffusable mass. Next I tried rubbing the sulphur with the tincture, and adding the oils. The result was the same. Lastly I mixed the tincture and oils in the bottle, and added the sulphur; the result, however, was just the same. Yours,

J. H. P. (224/22.)

Mist. Bismuthi Co.

SIR,—What is generally given for this, when ordered in a prescription? Am I at liberty to use any preparation under the above name—Wyley's make, for instance—or am I confined to Hewlett's or Sellar's? Yours, &c.,

BISMUTH. (229/8.)

[A question similar to this has been asked before, without result. We print the above as being more definite and likely to lead to post-card replies.—ED.]

Pil. Opii, Gr. j.

Writing from Inverness, *An Apprentice* (235/36) asks us what should be given for pil. opii, gr. j., the directions being, "One every six hours until the pain is relieved." Three doctors in Inverness write similar prescriptions. It is a roundabout way to come to London for a solution of a difficulty which can be best settled by a polite inquiry of an Inverness doctor. The plan generally followed is to give 1 grain of opium made into a pill. Sometimes a mass is made from powdered opium, with excipient equivalent to

the amount of moisture lost in drying, as this makes a better pill. We have met with one case where the prescriber always used pil. saponis co., gr. v., and sometimes, but that rarely, would write "Pil. opii," admitting afterwards that this was done thoughtlessly. There may be other cases similar.

A Gelatine Application.

Last week "Gelatine" (229/9) submitted a formula for a glyco-gelatine paste which differs somewhat from the one given on page 286 of last volume, in so far that lard enters into its composition, the formula being:—

	Parts
Gelatine	150
Zinc oxide	100
Glycerine	65½
Lard	100

Such applications as this are largely used in Germany, on the recommendation of Dr. Unna, of Hamburg, their originator. They are used of two consistences, a harder and a softer, the former being specially useful in combination with lard, which in the proportion of from 10 to 20 per cent. is a decided improvement upon the pure glyco-gelatine base ("zinc-glue" it is called in Germany). The lard is specially useful in those cases in which balsams or camphor are ingredients of the "zinc-glue"; the balsams or camphor being first mixed with the lard, whereby they can readily be incorporated with the gelatine mass. Prescription 229/9 should be made as follows:—Mix the gelatine with the glycerine and its own weight of water, place in a porcelain dish, and heat on a water-bath until a perfectly homogeneous mixture results, replacing from time to time any water which is lost by evaporation. Now add the zinc oxide made into a smooth cream with water, and continue the heat and stirring until the mixture is brought down to the weight of the gelatine, glycerine, and zinc oxide. Now add the lard, and stir until it is mixed, which is not a difficult matter. Pour into moulds, or directly into a gallipot, and allow to cool. The mass so prepared has a uniform and fine white shining appearance, and elastic consistence. For use the gallipot is simply placed in hot water, and, when the contents become thin, with a suitable brush it is applied warm upon the diseased parts. A muslin bandage is wound round while it is still moist and warm, and the gelatine penetrating into the meshes of the muslin—of which several layers are applied—giving to the diseased part quite a firm, slightly compressing case. Other preparations of a similar character are made with salicylic acid, carbolic acid, resorcin, ichthyol, &c. Bichloride of mercury is soluble up to 3 per cent. in the basis, but oxide of mercury, pyrogallic acid, and tannin, which turn the ointment into an insoluble mass, should not be combined with it.—ED. *C & D.*

SIR,—In answer to "Gelatine" (229/9), I find the following method give tht most satisfactory result:—Place the gelatine (Nelson's), glycerine, and 200 parts of water in a water-bath, and heat until a perfectly homogeneous mixture results, then add the zinc oxide (Lubbock's), previously mixed with the lard, and stir well until thoroughly mixed, continuing the heat until nearly all the water has been dissipated. This gives a perfectly white product of very firm and tenacious consistency. Yours truly,

Worthing Infirmary, January 30. G. W. WEST.

Ozs.

SIR,—A good deal has been written of late *re* sizes of bottles. Would you or your readers turn out the following as an 8, 10, or 12 oz. mixture:—

Liq. bismuth. (Schacht's)	℥ij.
Sod. bicarb.	ʒj.
Tr. nucis vom.	gtt. xl.
Liq. morph.	,, xx.
Inf. chiratæ	Ozs.

℥j. ter die in aquâ.

Yours, &c., ERICA.

[Twelve ounces, certainly.—ED.]

LEGAL QUERIES.

52/230. *Bee.*—Orange wine can only be sold under a sweets' licence, unless it contains at least 1 grain of quinine sulphate to 1 oz.

41/230. *A.P.S.* asks whether a person who has passed the Minor can state on his labels "Chemist by pharmaceutical examination" or "Chemist by examination of the Pharmaceutical Society," he not being a subscriber to the Society?—Yes. Can he call his shop a pharmacy?—We think so; it has been contended otherwise, but the question has never been raised in a court.

G. W. B. (67/230) and *G. S. I.* (19/231).—These seem to be apprentices who think they are unfairly treated. They had better complain to their parents.

38/231. *Patents.*—We cannot say whether your labels infringe anyone else's. We are not acquainted with any which they resemble. Is this the point? Your query is rather vague.

39/228. *Assistant.*—You are not allowed to keep or sell benzoline except in securely stopped bottles, unless you have a petroleum licence. The local authorities may make what conditions they think fit on the licence, and if they knew that you sold benzoline by gaslight they would be quite justified in revoking your licence.

9/231. *C. W.*—The stamping of the indenture was of importance only during the period of apprenticeship, as an unstamped contract of the kind was not enforceable. We do not see any use in stamping it now.

28/232. *Kaska.*—It is impossible to answer your question without hearing both sides. Ask for the compensation, and see what the other man says.

29/232. *Cairo.*—You certainly have a legal right to oppose the registration of the trade-mark applied for; but we cannot say whether your opposition would be successful. Perhaps his trade-mark is in combination with a design. Have you ascertained?

42/233. *R. H. D.*—The ointment label would be liable to medicine-stamp duty. Any label for a compound medicine would be liable on which it should be stated, "Prepared only by ——."

37/234. *Mortgage.*—Your question is outside our range, and no one would advise you in the matter without seeing the bond and knowing something of the security. You had better consult a solicitor in your neighbourhood.

47/233. *Nemo.*—If you are under 18 years of age your master is liable to a fine under the Shop Hours Regulation Act, 1886, if he keep you at work for more than seventy-four hours in one week, including meal times. This period should include Sunday work. Your guardians should act for you. The Act only remains in force until the end of the forthcoming session of Parliament, but it may be renewed.

Books.

15/231. *Alpha.*—**Druggist's Price Books.**—See Mr. Silverlock's advertisement.

221/32. *Semper Eadem.*—Messrs. J. & A. Churchill publish books on nursing, by Edward J. Domville (2*s.* 6*d.*); by Charles J. Cullingworth, M.D. (3*s.* 6*d.*); also for monthly nurses, by the same (1*s.* 6*d.*); and "Hospital Sisters and their Duties," by Eva C. E. Lückes, matron to the London Hospital (2*s.* 6*d.*).

MISCELLANEOUS INQUIRIES.

A large number of correspondents ask us for formulæ which have already been published in this journal. It is not fair to more careful readers that we should frequently repeat such information, and so long as the back numbers containing the formulæ or replies required are in print we must decline to do so. Back numbers of our weekly issue can be obtained from the publisher at 4d. each.

Writing-ink.—September 10, 1888, page 383; November 5, 1888, page 582, and other back numbers. (230/67. *G. W. B.*) (230/29. *Grana Paradisi.*)

German Paste for Feeding Insectivorous Singing Birds (in reply to *Avis*).

Blanched sweet almonds	1 lb.
Pea meal	2 lbs.
Butter	3 oz.
Saffron	A few grains.
Honey	q.s.

M. Form the whole into a paste, and granulate it by pressing it through a cullender. Some add the yolks of two eggs.

If "Avis" thinks of making a quantity of this paste, he will find the new potato-masher sold by most ironmongers for about 1*s.* 4*d.* a capital affair for granulating it.

FACTA NON VERBA.

Dandelion Coffee.—*Mr. C. S. Ashton* (Buxton) says he knows of at least one brand of dandelion coffee which contains a considerable quantity of coffee and some chicory.

45/232. *Cetac.*—We cannot explain the conduct of other journals. Ask them.

24/1. *Carbon.*—**Copying-paper.**—Make a paste with lamp-black and equal parts of castor oil and lard. Rub this well into soft unglazed paper for a few seconds, leaving a layer of the paste upon the paper; set aside for a day and rub off the superfluous paste. For blue paper use powdered Prussian blue instead of lamp-black.

228/63. *Major.*—It is possible to pass the **Major Examination** as the result of home study, and it has often been done, but you would be the better of some one with experience to guide you—probably your master would do this. The knowledge of physical instruments required is not extensive, and about 30*s.* will buy a few pieces of electrical and other simple apparatus sufficient for performing the elementary experiments. Books must do the rest. Practical chemical work should include qualitative analysis of inorganic substances, including all the official tests; simple gravimetric analysis, such as the estimation of iron, silver, and sulphuric acid; volumetric work; assay of standardised preparations of cinchona bark, opium, nux vomica, and such preparations as ext. cinchon. liquid; spt. æther. nit., spt. ammon. arom., and tests for all the official alkaloids and their salts, as well as the identification of these when mixed with foreign matter. Botany can be as well studied in the country as in the town; there is not a branch, leaf, or flower which does not yield the thoughtful student some piece of information or illustrate some fact which he has acquired from books. Those who have prepared themselves should endeavour to spend a few weeks in Edinburgh or London before the examination, filling up their deficiencies in the botanical gardens and museums.

228/28. *Boots.*—Wash out the boots well with water and parings of raw potatoes. The use of acids or alkalies would cause rotting of the thread.

233/3. *C. C.* **Cocoa-nut Chips** are a confection made by dipping small slices of cocoa-nut in boiling candy. We are not acquainted with the details. Ask a confectioner.

232/15. *B. W.*—**Soluble Cerium Citrate.**—We understand that the preparation of soluble citrate of ammonium and cerium is covered by patent. According to an expired patent granted to Mr. J. B. Mackey, Bouverie Street (No. 1,275, 1880), the liquor is prepared by incinerating oxalate of cerium, dissolving the oxide obtained in nitric or sulphuric acid, precipitating hydrated oxide of cerium from this solution by the addition of potash or soda, and dissolving this hydrated oxide in solution of citrate of ammonium. We published a formula substantially the same as the above three years ago in ignorance of Messrs. Mackey's rights, and they afterwards stopped one firm who made a preparation according to our formula; but we notice that Messrs. Brady & Martin make "a preparation of cerium oxide with citric acid and ammonia," so that there is more than one Richmond in the field. (2) You will find information regarding the preservation of hypodermic solutions in "The Art of Dispensing," pages 186 and 189. Sulphurous acid is best for physostigmine solution, and for alkaloids generally there is nothing better than thymolated water. (3) Of late years storax has been largely used for skin diseases. **Ung. Styracis Co.** is simply a mixture of lard and strained storax. Martindale gives the following proportions:—Storax, 1: S.V.R., 1; and lard, 3. The Prussian Pharmacopœia formula was as follows:—

	Oz.
Olive oil	12
Liquid storax	8
Resin	14½
Elemi	8
Yellow wax	8

Melt and strain.

(4) "If asked for 6*d.* of storax," writes this correspondent, "should I sell the stiff storax or the styrax colat.?" That depends upon the use to which the storax is to be put. If for burning, the unstrained article should be given; but if for medicinal purposes, the strained storax is the proper thing. (5) To **Clean Old Corks**, first steep them thoroughly in water for a night; then wash and agitate well in hot water containing 1 oz. of washing soda to the gallon; next wash in water acidulated with common hydrochloric acid, and finally wash with tap water.

232/30. *Forth Bridge.*—**Smelling-salts.**—Fill the bottles with small non-efflorescent bits of carbonate of ammonia and add a few drops of strong solution of ammonia and the same of lavender water. The result is a bottle of good and lasting pungency.

233/33. *C. A.*—The cultivation of hyoscyamus, belladonna, and the other more valuable medicinal plants requires special soil, special knowledge, and a large amount of faith. Your friend should visit some of the centres of cultivation, such as Market Deeping and Hitchin, and make inquiries before he does anything. There are no books on the subject.

222/31. *Spero.*—For a **Medicine Chest for Palestine** we would suggest the following remedies:—Quinine, lead and opium pills, Livingstone's rousers, Warburg's tincture, Dover's powder, ipecacuanha powder, chlorodyne, potassium bicarbonate, potassium bromide, camphor pilules, calomel, and cathartic pills. With the exception of the chlorodyne, all the remedies should be supplied in the form of pills or tabloids (see THE CHEMIST AND DRUGGIST, November 3, 1888, page 625). Give also some lint and other surgical dressings.

230/52. *Bee.*—**Phenacotin** is "nearly insoluble in water It is best given in powder form, or as tablets, its insoluble character not permitting it to be made into mixture." We quote from "The Art of Dispensing." If you dispense the remedy in powder form—say in 8 or 10 grain doses, for neuralgia—the following directions will suit:—"Place a powder in a wine-glass, with half a teaspoonful of spirits (brandy or whisky), half fill the glass with water, and take as a dose." Or the powder may be taken dry on the tongue, being swallowed with a mouthful of water.

235/15. *Dens.*—See 211/3 in last week's issue.

230/13. *Ringworm.*—(1) A rough, but, on the whole, fair and satisfactory test for ascertaining whether water is drinkable or not is to add 10 drops of solution of permanganate of potash to an ounce of it, and if the permanganate is reduced the water is unfit for domestic purposes. Nessler's solution is also used, as drinkable water seldom reacts with it. See November 24, 1888, page 736. (2) Milk contains about 12½ per cent. of solids, 9·3 of which consists of solids not fat, and the rest of fat. To determine these, 10 grammes of the milk mixed with 2 grammes of clean sand are evaporated to dryness in a platinum dish, and weighed, the weight (minus 2 grammes for the sand) gives the total solids. Now scrape the contents of the dish, and wash thoroughly and repeatedly with ether, until the ether no longer imparts an oily stain to paper; again dry the dish and its contents; the loss in weight which it has suffered represents the fat.

230/51. *Ernst.*—**Tinctura Ferri Pomata P. G.** (tincture of malate of iron) is made by dissolving 1 part of extract of malate of iron in 9 parts of cinnamon water. The extract is made as follows:—Pulp and press the juice out of 5 lbs. of unripe apples, strain, and dissolve 2½ oz. of reduced iron in the juice, make up to 5 lbs. with water, heat until gas ceases to be evolved, then filter and evaporate to a thick extract. (2) You were too late for this month's competition. Send your application in good time for next month.

232/14. *Novice.*—Information is given in last week's correspondence which just suits you.

222/5. *Jason* asks if we can improve upon the following form representing a **Fruit Salt**:—

	Parts
Pulv. sodii bicarb...	25
„ acid. tart.	23
„ cremor. tart.	5
„ magnes. sulph.	5
„ sodæ tartaratæ	15
„ potassii chlorat.	2
„ sacch. albi	25
	100

This becomes moist in a short time—naturally. We should improve upon the formula by leaving out the cream of tartar, reducing the Epsom salts to 1 part of the dried salt, reducing the Rochelle salt to 5 parts and the chlorate of potash to 1 part, and increasing the sugar to 40 parts. All the ingredients should be dry and mixed by sifting.

211/27. *Jaques* points out that a formula for Dr. Root's medicine, **Elepizone**, for curing fits has been published in the "Extra Pharmacopœia." It will also be found on page 260 of THE CHEMIST AND DRUGGIST, August 25, 1888.

234/19. *Beta.*—**Starch Gloss.**—A mixture of starch and borax is very commonly used. Another useful glaze is hard paraffin formed into sticks 3½ inches long and ½ inch thick.

233/52. *Timon.*—Your idea that composition powder and Gregory's powder are identical is quite erroneous. The former consists of bayberry powder, ginger, cloves, and capsicum. It is a favourite remedy of the Coffin school of treatment.

234/72. *T. A.*—We should like to have fuller particulars than you give regarding the electric lady. Please say how she touches the persons, and tell us all you know.

229/35. *Spero.*—A definite formula for the glazing compound would necessitate an analysis which we cannot undertake.

229/36. *Sea Breeze.*—The quantity of the **Ointment for Eczema** was only sufficient to enable us to detect the presence of vermilion and fresh butter.

233/16. *Cream.*—Your **Heading Fluid** does not contain egg albumen, but is a strong decoction of senega or quillaja, with about 10 per cent. of alcohol.

226/40. *Vaseline.*—Your **Baking-powder** is simply a mixture of tartaric acid and bicarbonate of soda, the latter in slight excess—say, 1 lb. of the former and 19 oz. of the latter.

221/28. *Amalgam.*—The specimen which you send consists of turnings of the alloy.

234/74. *H. Mitchell.*—The preparation for removing **Stains from Red Cloth** is a liquid cochineal.

234/66. *F. C.*—**Aqueous Infusion of Ginger** is rendered bright by shaking up with light carbonate of magnesia and filtering.

235/14. *H. G. H.*—Bicarbonate of soda is the basis of the cheap **Electric Snuffs.** You can ring the changes by adding a modicum of either hellebore, cocaine, or morphine.

233/41. *Alpha.*—**Inf. Aurantii Conc.** (1 to 7).—Dry, cut, and bruise 8 oz. of bitter-orange peel. Take 8 oz. of proof spirit and mix sufficient of it with the peel to make a paste. Allow to soak for several hours and pack in a percolator, the orifice of which is closed. Allow to stand over night, then add the rest of the spirit and percolate, adding water until the percolate measures 15 oz. Then remove the marc from the percolator. Infuse twice with 8 oz. of water, pressing each time; evaporate the infusions to 5 oz., add to the percolate, and filter.

233/60. *Ambition* does not favour us with his name.

Tinct. Chloroformi et Morphinæ.—*C. E. L.* (234/65) writes:—"I have made two batches of this preparation strictly according to the B.P., but both separate. Can any of my fellow-readers give a remedy, as I am told that it should not separate when properly made?"

Queries Answered.—*Heder* recommends Oppenheimer Bros. & Co., Sun Street, Finsbury, for a cream of malt, and Gunning, of Bath, for oat flour.

Information Wanted.

[*Replies to the following requests are solicited by correspondents of* THE CHEMIST AND DRUGGIST.]

232/30. How to make the various concentrated wines, raspberry, &c.

230/15. Torrington drops for lumbago. What is this?

230/19. Maker of moulds for cakes of beeswax for retail sale; or what is the best material for making them?

CUPRIC IODIDE.—Mr. D. J. Carnegie, B.A., in a communication to the Chemical Society, states that by digesting cuprous iodide with iodine and water, in a tightly closed bottle at 80° for a few minutes, solution of cupric iodide containing as much as 0·82 gramme per 100 c.c. is obtained, but the solid iodide could not be separated. A well-defined basic periodide ($CuI_2 2CuO \cdot 4H_2O$) was obtained by digesting copper with barium iodide.

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Benzoic Acid & Benzoates.
Bicarbonate of Potaſh.
Bicarbonate of Soda (Howards').
Biſmuth preparations.
Borax & Boracic Acid.
Bromides of the Alkalies.
Caffeine.
Caffeine Citrate, P.B.
Camphor Bells, Blocks, & Flowers.
Citrate of Iron & Quinine, P.B.
Citric Acid & Citrates.
Cocaine and its Salts.
Corroſive Sublimate.
Ext. Cinch. Liq. P.B., & H. & S.
Ext. Cocæ Liq. P.B.
Iodides of the Alkalies.
Iodoform.
Liq. Biſmuthi et Am. Citratis.
Magneſia.
Mercurials, Calomel, &c., &c.
Rochelle Salt & Pulv. Seidlitz.
Spirit preparations.
Terebene.
Urethane. &c., &c.

AND OTHER PHARMACEUTICAL CHEMICALS.

Stratford, Eſſex.

Detailed Price Lists on application.

T. & H. SMITH & CO.,

EDINBURGH AND LONDON

Are the ONLY MANUFACTURERS of the

SALTS OF MORPHIA

To whom, at the UNIVERSAL EXHIBITION, in PARIS, 1878, the

GOLD MEDAL WAS AWARDED.

NEW YORK Office—20 Cedar Street: FRAS. JAS. MACNAUGHTAN, Agent. [2]

THE VEREINIGTE FABRIKEN CHEMISCH-PHARMACEUTISCHER PRODUCTE

Feuerbach-Stuttgart & Frankfurt a/M, ZIMMER & CO.

Telegraphic Address—"JOBSTZIMMER FRANKFURTMAIN."

QUININE SULPHATE. Brand Jobst or Zimmer. Whitest and most bulky crystals; utmost purity warranted.

QUININE HYDROCHLORATE. Brandt Jobst or Zimmer. Whitest and most bulky crystals; utmost purity warranted.

ZIMMER'S QUININE PEARLS, in original bottles or boxes of 25, 50, or 100. Each pearl contains 0·1 gr. (=1½ grain) Chinin sulfur. puriss. c. bisulf. parat.

CINCHONIDINE, CINCHONINE, QUINIDINE, QUINOÏDINE, and all other preparations from Cinchona Bark.

Prices Current of the other Pure Chemicals will be forwarded on application.

SOLE WHOLESALE AGENTS:

A. & M. ZIMMERMANN, 6 & 7 CROSS LANE, ST. MARY-AT-HILL, E.C.

YOUNG & POSTANS. BISMUTH, PEPSINE & STEEL

GRAN. EFFER. BISMUTH AND PEPSINE
GRAN. EFFER. BISMUTH, PEPSINE AND STRYCHNINE
GRAN. EFFER. BISMUTH, PEPSINE AND QUININE
GRAN. EFFER. BISMUTH, IRON AND QUININE
GRAN. EFFER. BISMUTH CITRATE
GRAN. EFFER. BISMUTH, IRON AND STRYCHNINE
GRAN. EFFER. CITRATE OF CAFFEINE.
GRAN. EFFER. IRON AND BISMUTH
GRAN. EFFER. IRON, QUININE AND STRYCHNINE
GRAN. EFFER. IRON AND ARSENIC
GRAN. EFFER. IRON AND PEPSINE
GRAN. EFFER. IRON AND QUININE
GRAN. EFFER. IRON, QUININE AND PEPSINE
GRAN. EFFER. HYDROBROMATE OF CAFFEINE.

AND ALL OTHER GRANULAR PREPARATIONS.

Now prepared only by **CURTIS & COMPANY**, 48 Baker Street, Portman Square, LONDON, W.

GRANULAR EFFERVESCENT ANTIPYRIN.

(Each Teaspoonful contains 8 grains.) Introduced by Curtis & Co.

See that this preparation bears our name.

LOFTHOUSE & SALTMER,

MANUFACTURING CHEMISTS, WHOLESALE & EXPORT DRUG MERCHANTS

HULL,

Manufacturers of all Pharmaceutical Preparations on the best and most improved principles.

QUOTATIONS ON APPLICATION.

SOLUT. ÆTHERIS NITROSI (Æther. Hyponit.)

1 part to 5 Sp. Vini Rect. 56 o.p. makes Sp. Æth. Nit. 850.

This concentrated preparation is carefully drawn in our own laboratory, is highly recommended, and is daily finding increased favour with the trade for making Sp. Nitro, as required for use, and thus avoiding the risk of a development of free acid, which is more or less prevalent in Sp. Nitre that has been drawn some time. Price in Winchester Quarts, 3s. per lb., net.

Importers of Cod Liver, Castor, and Olive Oils; Otto de Rose, and all Essential Oils; Valentia Saffron; Vanillas; Fruit Essences; Carmine; Aniline Dyes; Bees Wax, &c., &c. Applications for Special Quotations invited.

WYLEYS & CO.

MANUFACTURING CHEMISTS AND DRUG GRINDERS.

WAREHOUSES, LABORATORIES, & DRUG MILLS,

COVENTRY.

COATED PILLS.

Estimates for making and coating according to private recipes will be forwarded on application.

Our pill department is now a most important branch of our business; and we have a large staff exclusively engaged in pill making. All mixing, cutting, rounding, picking, &c., is accomplished with the aid of steam machinery, by which means we attain a uniformity in composition and size such as cannot be equalled by hand-work.

WYLEYS' PEARL-COATED PILLS.

Our coating is well known as possessed of excellent keeping qualities, being thin in substance, soluble, and well adapted to retain the essential oils contained in the pill masses.

For finish, and general good appearance, they will compare most favourably with any in the market.

WYLEYS' GELATINE-COATED OVAL PILLS.

The only oval gelatine-coated pills of English manufacture in the market. The distinctive colours of the ingredients contained within them show through the transparent covering, and our gelatine-coated pills are admirably adapted for the elegant administration of *single drugs*, as well as compound pill masses.

Our "Prices Current" contains an extensive list of coated pills, showing formulæ and prices, together with a number of TESTIMONIALS.

PILL VASES (GOLD LABELLED).

We stock handsome vases, adapted for Soluble Pearl or Gelatine-coated Pills, and labelled according to the following varieties, "Liver," "Female," "Castor Oil," "Aperient," "Compound Rhubarb," Digestive," "Rheumatic," "Cough."

PRICES.

Small, to hold 2 to 3 gross .. .. 3/6 each
Large, to hold 7 to 8 gross .. .. 5/- „

These may be had filled according to any of the numbers given in our list, or with special pills to private formulæ. As examples of prices, we quote:—

		Pearl-coated.	Oval Gelatine.
No. 211 (Liver)	per gross..	1/8	2/2
„ 258 (Liver)	„ ..	1/4	1/10
„ 29 Aperient)	„ ..	10*d.*	1 4
„ 537 (Digestive)	„ ..	1/4	1/10
„ 480 (Female)	„ ..	2/-	2/6
„ 623 (Female)	„ ..	1/3	1/9
„ 80 (Rheumatic)	„ ..	2/-	2/6
„ 619 (Cough)	„ ..	1/6	2/-

Special quotations for large quantities.

COMPRESSED PELLETS.

We are offering Glass-topped Boxes, suitable for display on the counter, and containing two dozen heart-shaped bottles, with white metal screw caps, and filled with pellets (assorted) at 6/ per box net cash.

List of Pellets supplied.

Ammonium Chloride. Sodium Bicarbonate.
Potassium Chlorate. Sal Prunella.
Potassium Chlorate and Borax. Soda Mints.
Potassium Bicarbonate. Voice.

Also similar Glass-topped Boxes containing 3 doz. Metallic Boxes, filled with an assortment of pellets, as above, at 7/6 per box net cash.

For prices in bulk, see "Prices Current."

GLYCERINE SUPPOSITORIES (WYLEYS) FOR USE IN CONSTIPATION.

AS FIRST INTRODUCED BY OURSELVES.

Glycerine administered in the form of a Suppository acts equally as well as when injected by means of a special syringe, whilst the advantage of the Suppository form is obvious.

We prepare these Suppositories in two sizes, which are supplied in slide boxes, each containing one dozen.

Ordinary (Pessary size) .. 1/6 dozen.
Small, for Children.. .. 9d. „

MALTED FOOD FOR INFANTS & INVALIDS.

In addition to sending out the above article in bulk, we are supplying it in Half-pound and One Pound Cardboard Cases, **ATTRACTIVE IN APPEARANCE**, and labelled without Name and Address.

PRICES.—In Bulk, 42/- per cwt.; Half-pound Packages, 4/- per doz; One Pound Packages, 7/6 (subject to Patent Medicine Discount).

Concentrated Infusions and Decoctions, Granular Effervescent Preparations, Extracts, Spt. Æther. Nit., Spt. Ammon. Arom., Medicated Suppositories, Pessaries, Bougies, and Plasters, Medico-Pharmaceutical Appliances, and all New Preparations and Medical Specialities.

THE DURAPLASTIC COATED HORSE BALL.

(PATENTED. No. 15215.)

Extract from "The Veterinary Journal," December, 1886.

Messrs. Wyleys & Co. have introduced a description of horse ball which appears to possess several notable advantages which should commend it to veterinary surgeons. These advantages are related to its **shape, coating,** and the **solubility** of this coating. The **shape** is exactly that of an elongated conical shot, which gives it the fewest possible points of resistance to entering the pharynx and œsophagus, enabling it to pass easily into the stomach, and reducing to a minimum the possibility of accident. The **coating** is on **Fletcher's patent principle,** and being absolutely **air-tight,** the **therapeutic properties** of the remedies it envelopes remain **unimpaired** for any length of time; while the ball is kept sufficiently **firm** to retain its shape, and is yet **pliant** enough to adapt itself to the fingers during administration. In addition to this, the **coating** is so **soluble** that it dissolves in less than two minutes at the normal temperature of the viscera, whereby the **prompt action** of the medicament is ensured, a point of much importance in **urgent cases.** The elegance and **form** of the bolus is in **striking contrast** to the old-fashioned paper-covered article, with its flat angular ends, and its too hard or too soft consistency.

No. 4.—Alterative Balls ..	.. 24/	per gross
„ 5.—Astringent Balls ..	.. 24/	„
„ 12.—Condition Balls ..	.. 24/	„
„ 6.—Cordial Balls ..	.. 24/	„
„ 7.—Cough Balls ..	.. 24/	„
„ 16. Cough Balls ..	.. 27/	„
„ 17.—Cough Balls ..	.. 27/	„
„ 8.—Diuretic Balls ..	.. 24/	„
„ 9.—Fever Balls ..	.. 24/	„
„ 1.—Physic Balls ..	.. 24/	„
„ 2.—Physic Balls ..	.. 30/	„
„ 3.—Physic Balls ..	.. 36/	„
„ 18.—Physic Balls ..	.. 42/	„
„ 19.—Physic Balls ..	.. 48/	„
„ 15.—Stimulating Balls	.. 24/	„
„ 10.—Tonic Balls ..	.. 24/	„
„ 11.—Tonic Balls ..	.. 20/	„
„ 13.—Worm Balls ..	.. 30/	„
„ 14.—Worm Balls ..	.. 60/	„

PRIVATE FORMULÆ.—WYLEYS & CO. will be glad to prepare Patent Duraplastic Balls from private recipes. Arrangements can also be made to have the name of the Chemist upon each Ball if desired upon orders of 2 gross of assorted Balls.

All Balls are packed in boxes of one dozen. Samples forwarded free on application.

R. W. GREEFF & CO., AGENTS.

"SULFONAL-RIEDEL"

Which has just been awarded a GOLD MEDAL at the Brussels Exhibition.

THE NEW HYPNOTIC.

SULFONAL-RIEDEL TABLETS.

PEPSIN-RIEDEL P.B. & P.G.

METHYLENCHLORIDE, Pure, spec. grav. 1,351.

Manufacturer: J. D. RIEDEL, BERLIN.

TO BE OBTAINED THROUGH WHOLESALE DRUGGISTS.

ACETIC ACID,

Chem. Pure, 30, 33 (P.B.), and up to 95 per cent., and GLACIAL.

Manufactured by the LARGEST MAKERS

VEREIN FUR CHEMISCHE INDUSTRIE

(Union of Chemical Industries).

Head Office—FRANKFORT-ON-MAIN. 9 Factories.

IODOFORMIUM BITUMINATUM

(Dr. EHRMANN).

IRON REDUCED BY HYDROGEN

IN EVERY PERCENTAGE.

The Speciality of the "CHEMISCHE FABRIK"

OF

Dr. PAUL LOHMANN,

HAMELN, HANOVER.

GLYCERINE, CHEM. PURE,

d. d. 1,260 S. G.

CARBONATE OF MAGNESIA AND CALCINED MAGNESIA. Lightest and Purest.

SOLE WHOLESALE AGENTS:

R. W. GREEFF & CO., 29 MINCING LANE, LONDON, E.C.

TOWLE'S CHLORODYNE

In COUGHS, ASTHMA, BRONCHITIS, INFLUENZA, &c., its effects are truly wonderful, immediately relieving the tightness of the Chest, allaying irritation of the Throat, promoting Expectoration, and speedily and effectually subduing the Cough.

It soothes the weary aching of CONSUMPTION, relieves the harassing Cough, and often prevents those sleepless nights so trying to the sufferer.

In CHOLERA, DIARRHŒA, DYSENTERY, &c., it has proved itself a most valuable specific, quickly relieving the pain and spasms, and seldom failing to check the disease; for which property, as well as for its value in Sea Sickness (for which it is the best remedy known) it should be an indispensable article in every emigrant's outfit.

TESTIMONIALS.

"Superior to every other I have tried."
F. H. GREEN, M.R.C.S.,
Rochdale Dispensary.

"Peculiarly serviceable in Bronchial, Spasmodic, and Neuralgic Affections."—
ALFRED ASPLAND, F.R.C.S.,
Consulting Surgeon to Ashton Infirmary.

"I have used it largely in Spasmodic and Painful Affections, Bronchitis, and Neuralgia. It has the property of being readily combinable in ordinary prescriptions—an advantage over all similar preparations."—
R. TRAFFORD WHITEHEAD, M.R.C.S.

A Surgeon writes:—"In Diarrhœa, Colic, Ague, Spasms, I have found it relieve more pain and cause more joy than any other article that can be named. Has proved itself a specific against sea-sickness."
Island Bridge, Dublin.

"I am pleased to say that although I have not finished a quarter of the bottle (2s. 9d.) the pain has left my chest, and the cough is almost well."—J. BROWN.

30

Immediately Relieves
COUGHS,
CONSUMPTION,
ASTHMA,
BRONCHITIS,
TIC,
SPASMS,
HYSTERIA,
DIARRHŒA,
DYSENTERY,
CHOLERA,
CRAMP, AGUE.
Sea-Sickness, &c.

REVISED PRICE LIST.

	Retail. s. d.	Per doz £ s. d.
Towle's Chlorodyne	1 1½	0 8 6
Ditto	2 9	1 3 0
Ditto (3 fluid oz)	4 6	1 16 0
Ditto (8 ")	11 0	4 13 0
Liq. Chlorodyni (*Original and only Genuine Preparation*) ½ lb. ..		1 10 0
Ditto ditto ½ lb. ..		2 14 0
Ditto ditto 1 lb. ..		4 16 0
Winchester Quarts (6 lb.) 7/6 per lb., bottles free.		
Towle's Antibilious Pills	1 1½	0 8 6
Ditto	2 9	1 3 0
Towle's Chlorodyne Lozenges	0 7½	0 5 3
Ditto Jujubes	1 1½	0 8 6
Ditto in bulk, bottles free, containing 1 lb., 2/9 each.		
Ditto ditto 1 lb. 10 oz., 4/6 "		
Ditto ditto 4 lb., 10/- "		
N.B.—The Commissioners will allow them to be sold by the retailers without further duty, provided they are simply wrapped in *paper*, and not enclosed in a *box, bottle*, or *packet*.		
Thornton's Celebrated Toilet Cream	1 0	0 9 0
Ditto	1 6	0 14 0
Ditto	2 6	1 4 0
Amboline (Registered Trade Mark)	2 6	1 4 0
The Thornton (Red) Lotion (Stamped)	2 6	1 4 0
Thornton's Paragon Hair Wash	1 0	0 9 0
Ditto	2 6	1 4 0

Posters, Bills, and Showcards on application.

£5 worth (assorted or otherwise) Carriage Paid.

7 lb. Lozenges and upwards stamped with Chemists own name, free of charge.

A. P. TOWLE & SON

75 BACK PICCADILLY,
MANCHESTER, *December*, 1886.

"CUTTING COUNTERACTED."

MOONSEED BITTERS brings FULL PRICES.

WHY?

Because every one who retails Moonseed Bitters has to sign an Agreement or Contract in the following terms:—

MOONSEED BITTERS.

Above is Facsimile of
THE WRAPPER LABEL
of the 2/9 size.
It is also sold at 4/6.

MOONSEED OINTMENT.

Retails at 1/1½, 2/9, 4/6 per box.

Memorandum of Agreement made this.....day of..... 1889, between A. E. POWELL & COMPANY, of Swindon in the County of Wilts, Proprietors of the Moonseed Bitters and Moonseed Ointment (hereinafter called the "Vendors"), of the one part and ..... of ..... (hereinafter called "the Purchasers"), of the other part.

Whereby it is mutually agreed between the said parties hereto as follows:—

In consideration of the Vendors selling to and supplying the Purchasers with Moonseed Bitters, Moonseed Ointment, and other preparations manufactured and sold by them (hereinafter termed "the Goods") at their usual prices, the Purchasers will observe and perform the following terms and conditions:—

1. The Purchasers to sell the Goods retail for full printed prices only, and for each and every Bottle or Box of Moonseed Bitters, Ointment, or Pills sold by him or them at any less price, without the written consent of the Vendors, the Purchasers shall pay to the Vendors the Sum of Twenty Shillings in the nature of a penalty, to be recoverable as ascertained liquidated damages.

2. The Purchasers not to supply any Wholesale House nor to sell the Goods wholesale to any Chemist or Druggist or Medicine Vendor who will not previously enter into an Agreement to retail the same at prices in accordance with the preceding Clause No. 1 of these presents.

All Purchasers who have signed a similar form of Agreement to the foregoing will be supplied upon the Vendors' usual trade terms, but those Purchasers who do not sign a similar form of Agreement to be supplied upon the following terms only, namely:—RETAIL, 4*s.* 5*d.* for each and every 4*s.* 6*d.* Box or Bottle, 2*s.* 8*d.* for each and every 2*s.* 9*d.* Box or Bottle, and 1*s.* 0½*d.* for each and every 1*s* 1½*d.* Box or Bottle—net in all cases. WHOLESALE, 4*s.* 4*d.* for each and every 4*s.* 6*d.* Box and Bottle, 2*s.* 7*d.* for each and every 2*s.* 9*d.* Box or Bottle, and 11½*d.* for each and every 1*s.* 1½*d.* Box or Bottle—net in all cases. This Agreement and the terms and conditions herein contained to remain in full force and virtue for the term of 7 years from the first day of March, 1889.

As witness the hands of the said parties hereto the day and year first above written.

We call attention to the important steps which we have taken to prevent our specialities being retailed at less than the advertised prices, and we ask the co-operation of the Trade in maintaining the integrity of the scheme whereby the sale of our preparations may always be retained by the legitimate trade. We will not only endeavour, by all means in our power, to prevent the advertised prices being "CUT," but will give Chemists every assistance and facility for making this a large as well as a paying business.

Please write for Terms and Form of Agreement. NOTE that we allow retailers of Moonseed Bitters 2*s.* 6*d.* per thousand for the Distribution of Pamphlets. All Goods are sent Carriage Paid for Cash in the United Kingdom.

A. E. POWELL & CO., SWINDON.

THE OLDEST ESTABLISHED WHOLESALE HERBALISTS IN THE UNITED KINGDOM, UPWARDS OF A CENTURY AND A HALF.

Prize Medals were Awarded to us at the Great International Exhibitions 1851, and 1862, for THE GENERAL EXCELLENCE OF OUR GOODS.

BUTLER, McCULLOCH & CO.

COVENT GARDEN MARKET, LONDON,

THE CROWN AND THISTLE BRAND PACKET HERBS

(MEDICINAL AND CULINARY)

For neatness and attractiveness in appearance have no equal in the market; the boxes can be opened and contents examined and closed up again without rendering the packet unsaleable. The MEDICINAL BOXES have the properties and uses, with full directions for preparation, and the name and address of our customer, printed on each box, and a supply of descriptive pamphlets for distribution sent to every purchaser.

REGISTERED TELEGRAPHIC ADDRESS—"ANTIQUITY LONDON."

IMPORTERS & EXPORTERS OF ALL KINDS OF HERBS, &c., IN BULK.

PRICE LISTS, SAMPLES, AND SPECIALLY LOW QUOTATIONS ON APPLICATION.

COATED SPRING BOUGIES OR ANTROPHORS.

In use by over 400 Physicians and Surgeons for gleet, fistulæ, wounds, &c., &c.

2½%	Thallin Sulphate .. (7 in.)	2/6. 5/. and 17/6	per box
5%	" " .. "	2/9, 5/6, and 18/6	"
2½%	" " and 10% Cocaine "	3/9, 7/6, and 30/	"
5%	" " and 10% Cocaine "	4/6, 8/6, and 33/	"
5%	Iodoform .. .. .. "	2/9, 5/6, and 18/6	"
10%	" .. .. .. "	3/6, 7/, and 22/	"
2%	Nitrate of Silver .. .. "	2/9, 5/6, and 18/6	"
5%	Tannic Acid .. .. "	2/9, 5/6, and 18/6	"
5%	Zinc Sulphate .. .. "	2/9, 5/6, and 18/6	"

Each box contains 6, 12, and 50 Bougies respectively. Export orders executed with special Bougies if for hot countries.

SOLE DEPÔT:

THOMAS CHRISTY & CO., 25 Lime St., London, E.C

DR. CHURCHILL'S

Syrup of Hypophosphite of Soda,
Syrup of Hypophosphite of Lime,
Syrup of Hypophosphite of Iron,
Compound Syrup of Hypophosphites,
Syrup of Hypophosphite of Manganese,
Pills of Hypophosphite of Quinine.

Price, 4 francs per Bottle in France.

Dr. Churchill's Pectoral Tablets,

Price, 2 francs per Box in France.

Dr. CHURCHILL, author of the discovery of the curative properties of the HYPOPHOSPHITES in Chest affections, recommends none but those prepared by

SWANN, PHARMACIEN, PARIS.

Each Bottle bears Dr. Churchill's Signature and Swann's Trade Mark.

SWANN, 12 RUE CASTIGLIONE, PARIS.

DINNEFORD'S FLUID MAGNESIA

PERFECT IN PURITY AND UNIFORM IN STRENGTH.

The most efficacious antacid and mild aperient for Delicate Constitutions, Ladies, Children, and Infants.

OF ALL WHOLESALE DRUGGISTS.

METHYLENE.

J. ROBBINS & Co. 147 OXFORD ST.

Obtained by the action of Metallic Zinc on Chloroform and Alcohol.
Discovered to be a general Anæsthetic by Dr. RICHARDSON in 1867.
Bottles, 16s.; 5-oz., 8s. 6d.; 4-oz., 4s. 6d.; 2-oz., 2s. 6d

COMPOUND ANÆSTHETIC ETHER,
For producing Local Anæsthesia.
In 4-oz., 10-oz., and 20-oz. Stoppered Bottles, 2s., 4s., and 7s.

OZONIC ETHER.
In 2-oz., 4-oz., 8-oz., and 16-oz. Stoppered Bottles, 2s., 3s. 6d., 7s., and 12s

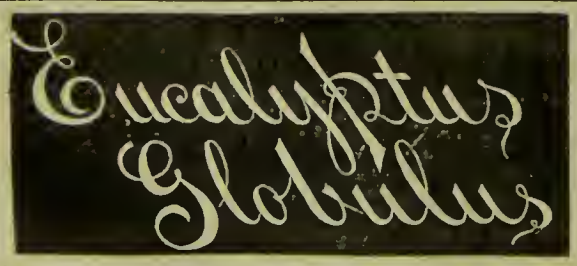
PEROXIDE of HYDROGEN.
First introduced as a Medicine by Dr. RICHARDSON.

ETHYLATE of SODIUM
Dr. ICHARDSON's Formula), for removing Nævi, &c. In ½-oz. & 1-o Bottles, with elongated Stoppers for applying the Caustic, 2s. 6d. & 4

STYPTIC COLLOID,
For promoting the Healing of Wounds by the first intention
In 2-oz. and 4-oz. Bottles, with Brush, 2s. 6d. and 4s. 6d.; 16-oz., 12s.

CHARCOAL CAPSULES
Containing Pure Vegetable Ivory Charcoal.
In Boxes, 2s. 6d. each.

J. ROBBINS & Co. OXFORD ST. 147



We distil pure oil of Eucalyptus GLOBULUS as a by-product in the manufacture of our Eucalyptus Boiler Fluid, and are, therefore, enabled to place it in quantities at a lower rate than has heretofore been asked for it.

DOWNIE B. I. P. CO.
4 REDCROSS STREET, LIVERPOOL;
204 MARKET ST., SAN FRANCISCO; and
71 HUDSON STREET, NEW YORK.

TARTARIC ACID

Technically Pure, in Crystals and Powder, of best quality only; also Chemically Pure;

OF THE

Nienburger Weinsteinsäurefabrik

IN NIENBURG a. d. WESER.

SOLE AGENTS FOR THE UNITED KINGDOM—

OSCAR ANDREAE & CO.
26 GREAT TOWER ST., LONDON, E.C.

IMPORTANT TO THE TRADE.

BRANDRETH'S SUGAR-COATED PILLS.

Numerous complaints are reaching the proprietors from the public that, when asking for Brandreth's Sugar-coated Pills, dealers frequently supply the old style, and refuse to acknowledge their error. Brandreth's Sugar-coated Pills can be had through any of the wholesale houses, and it is hoped Dealers will lay in a supply. They may have the old style exchanged by applying to the principal agency. This applies only to stock in hand prior to January, 1889.

22 HAMILTON SQUARE, BIRKENHEAD.

WITHOUT A RIVAL!

From the time Medicine was first discovered by the Ancients down to the present none ever made such progress as

BEECHAM'S PILLS.

They stand without a rival, and have by far the largest sale of any Patent Medicine in the World. This is a fact which every business man is bound to admit.

All Foreign Dealers will find BEECHAM'S PILLS the most Saleable Medicine in the Market.

The health-restoring and life-giving properties of these Pills are such as to increase their demand every year.

The words "BEECHAM'S PILLS, SAINT HELENS," are on the Government Stamp affixed to each box.

Prepared only and sold by the Proprietor, THOMAS BEECHAM, ST. HELENS, LANCASHIRE, ENGLAND, in boxes at 1s. 1½d. and 2s. 9d. each, with full instructions for use.

33

QUININE CHOCOLATE TABLETS,

MANUFACTURED BY THE AMSTERDAMSCHE CHININEFABRIEK.

These Tablets are made from guaranteed Pure COCOA AND SUGAR; each Tablet contains 1 Grain SULPHATE OF QUININE.

Quinine mixed with Chocolate is practically tasteless, and can be taken even by such persons who cannot digest Quinine in other forms.

BEST PREVENTIVE AGAINST FEVER, WEAKNESS, &c.

Apply for Samples and Prices to **DOMEIER & CO., 13 ST. MARY-AT-HILL, LONDON.**

LONDON DEPOT: 26 and 27 High Holborn.

LEEDS, DECEMBER, 1888.

TO CHEMISTS AND PATENT VENDORS.

Notice of Advance in Price.

I beg to give you notice that after the First day of January next, my Preparations as undermentioned will be advanced to the prices named below.

I intend to advertise them very extensively during next year.

Thanking you for past favours, and trusting to merit a continuance of your esteemed orders,

Yours faithfully, **W. B. MASON.**

Killcorn	per doz. 10/0	2/6 Gould's American Syrup	„ 20/0
1/0 Ferguson's Compound Glycerine Balm ...	„ 10/0	1/1½ Dr. Brown's Cough Cure	„ 10/0
2/6 „ „ „ „ ...	„ 25/0	2/9 „ „ „	„ 25/0
2/6 Dr. Munro's Asthma Cure	„ 20/0	10% Discount for Cash.	

£5 ORDERS AND UPWARDS CARRIAGE PAID. CASES FREE.

WHOLESALE AGENTS.—MAY, ROBERTS & CO., BUTLER & CRISPE, EDWARDS & SON, BARCLAY & SONS (LIMITED), &c., LONDON; GOODALL, BACKHOUSE & CO., LEEDS; JNO. THOMPSON, LIVERPOOL; W. FOGGITT, THIRSK; RAIMES & CO., YORK, &c., &c.

BANNER'S LIVERPOOL

SUMMER SEASON SPECIALITIES.

GRANULAR EFFERVESCENT CITRATE OF MAGNESIA.

DALMATIAN INSECT POWDER

(FROM CLOSED FLOWERS).

1-cwt. Case of Tins Mag. Cit. Gran. Effer. at 6½d. per lb. | 28-lb. Tins Mag. Cit. Gran. Effer. at 7d. per lb.

GREAT REDUCTION!

NEW AMERICAN OIL OF PEPPERMINT, NOT deprived of its Menthol, 8s. 9d. per lb. An original 22-oz. bottle free by parcel post for 12s. 6d.

8-oz. Capsuled **E. I. Mustard Seed Oil,** branded "Star of India" on Capsule, bottle ... ... 8/9 per doz.
4-oz. Capsuled ditto, ditto ... ... 5/6 „ „
28-lb. tins **Dalmatian Insect Powder** ... 1/2 per lb.
56-lb. tins **Chilian Honey** ... ... –/3 „ „
10-lb. tins **Super Ess. Lemon** ... ... 5/6 „ „
7-lb. pottle **P. Rhei E. I. Elect** ... ... 3/– „ „
56-lb. **Bale Senna T.V.** ... ... –/3¼ „ „
4½-gallon tins finest non-freezing **Norwegian Cod Liver Oil** ... ... 4/6 per gal.

CIRCASSIAN SWEET OIL. — 40-gallon barrel, bright and clear as COLZA OIL—1s. 6d. per gallon (for Hair Oil, &c.); sample 9-gallon tin for 15s.

40-lb. tin **Baseline Petro. Jelly** (firmer than Vaseline) ... ... –/4 per lb.
(Best Ointment and Pomade basis.)

Dozen Pure **Menthol Cones,** in neat turned wood boxes ... ... 2/– per doz.

One-Gross case 3*d.* size "Struck down Dead" **Vermin Killer,** with "Poison Register," for 10/6.

GOOD MERCHANTABLE QUALITY GUARANTEED.

E. R. BANNER, DRUG MERCHANT, **56 BOALER STREET, LIVERPOOL.**

34

NOW READY.

J. SANGER & SONS' ADDENDA TO PRICE CURRENT,

Containing all the Newest Proprietaries and most recent prices.

Inspect our well-assorted Stock of

DRUGGISTS' SUNDRIES, PERFUMERY, LOZENGES, MINERAL WATERS, &c.

PRICES COMPARE FAVOURABLY WITH OTHERS.

SENT, POST FREE, ON RECEIPT OF BUSINESS CARD.

AGENCIES OF ALL KINDS UNDERTAKEN ON FAVOURABLE TERMS.

J. SANGER & SONS, 489 OXFORD STREET, LONDON, W.

KEARSLEY'S Widow Welch's FEMALE PILLS.

These are universally acknowledged to be the Genuine, and Druggists may safely recommend them.

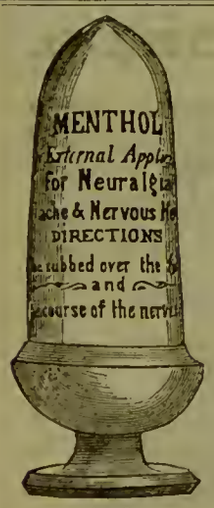
CAUTION!

The Proprietors of Kearsley's Original Widow Welch's Female Pills find it incumbent on them to caution the purchasers of these Pills against various imitations by parties who have no knowledge of their peculiar preparation, the Original Recipe having been sold to the late G. Kearsley, of Fleet Street, whose Widow found it necessary to make an affidavit, for the protection of her property, in the year 1798. The Genuine Recipe for **Widow Welch's Female Pills** has been prepared by them for **100 Years!** Chemists are particularly requested to remark that, as a testimony of authenticity, each bill of directions contains an affidavit, and bears the signature of "C. KEARSLEY," in writing, also engraved on the Government Stamp, and each box is wrapped in WHITE paper.

Price 27s. per Dozen, subject to usual Discount. Special Quotations to Shippers and for large quantities on application to

J. SANGER & SONS, 489 OXFORD STREET, LONDON, W.

A1 BRAND. SHIRLEY'S MENTHOL CONES.



No. 6.

Cocaine & Menthol Toothache Tube, 3/6 doz.

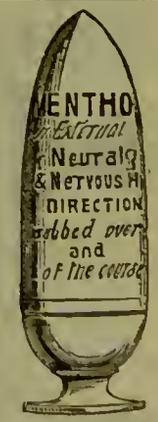
SELLING FREELY.

IMPORTANT ALTERATIONS IN PRICES.

Always Order as A1 Brand.

No.		Description.	Per gross.		Per doz.
1	6d.	Glass	30/	...	3/
11	6d.	Boxwood Pedestal, each in a box	33/	...	3/4
11a	6d.	" " 12 in a box	30/	...	3/
14a	1s.	" " "	63/	...	6/3
6	6d.	" " (larger), 12 in a box	36/	...	3/6
7s	6d.	Boxwood Barrel, 12 in a box	36/	...	3/6
9s	6d.	" Skittle "	36/	...	3/6
17s	6d.	" Draughtsman, 12 in a box	38/	...	3/9
100	2d.	Willow Round Boxes	12/	...	1/5
101	3d.	" Acorn	17/	...	1/10
106		Willow Pedestal, highly polished, shape as No. 11	20/	...	2/
107		" " " " " No. 6	23/	...	2/3
109		Willow Pesdestal, larger	26/	...	2/6
108		" Draughtsman	24/	...	2/4
111		Boxwood, large Pedestal Acorn, plain cases	72/	...	7/
112		" Cartridge shape, plain cases	36/	...	3/6
113		" Draughtsman "	33/	...	3/3

All these patterns have the directions printed on the boxwood.



Nos. 11 and 11A.

ORDER AS A1 BRAND.

ILLUSTRATED PRICE LIST on application.

110	1d.	Menthol, Bottle shape, 3 dozen on a card	7/6	
110v	1d.	" Vase " 3 " "	7/6	

Those who are obliged to sell cheap goods will find these far eclipse anything ever offered. The A1 Brand does not appear on the label, but the Menthol is guaranteed Pure.

ARTHUR W. SHIRLEY, 30 PATERNOSTER SQUARE, LONDON, E.C.

SEABURY'S COMPOUND SULPHUR CANDLE

(PATENTED).

From *The Chemist and Druggist*, Dec. 22, 1888:—"A compound sulphur candle is a novelty which ought to sell freely. It offers an easy means of supplying sulphurous acid gas in apartments, to clothing, &c. It is a mass of sulphur with a wick, all enclosed in tin, and capable of being sold for 1s."

From *The Lancet*, Jan. 5, 1887:—"The idea is an excellent one, for considerable risk attends the burning of sulphur in an ordinary manner. It is, moreover, a great convenience to have a known and suitable quantity of sulphur ready for immediate use. The cubic area of a room being known, the exact number of candles required for its disinfection will at once be evident"

SOLE MANUFACTURERS—
SEABURY & JOHNSON, 46 Jewin Street, LONDON, E.C.

Gold Medal. Hygienic Exhibition. Ostend, 1888.

This entirely new and excellent Health-giving Preparation *Softens the Water*, gives it a *Most Delicious Odour, and Beautifies the Complexion* in an extraordinary way. Should be in every bathroom and dressing room. Pasta Mack of all respectable Chemists and Perfumers throughout the world. *Beware of Worthless Imitations. See the Trade Mark on every box.*

Sole Manufacturer and Inventor, H. MACK, Ulm a/D. (2

Export from all Wholesale Houses

Wholesale Agents for Great Britain, OSBORNE, GARRETT & Co., London, W.

INFALLIBLE! INFALLIBLE

1d., 2d., 3d., 6d., and 1s.

CANNOT BE EXCELLED.

Over 40 years' Reputation as the most Deadly and Reliable

"KILLER"

extant, retaining its properties for any length of time, in any climate.

Testimonial from Mr. JAS. THOMPSON, Farmer, Carlisle, to Mr. PATTINSON, Chemist, Carlisle.

"SIR,—You can with confidence recommend 'HUNTER'S VERMIN DESTROYER.' It is the best thing I ever used, having often cleared stackyards with it of both rats and mice in a day or two."

OF ALL THE WHOLESALE HOUSES.

MANUFACTORY: DEWSBURY, ENGLAND

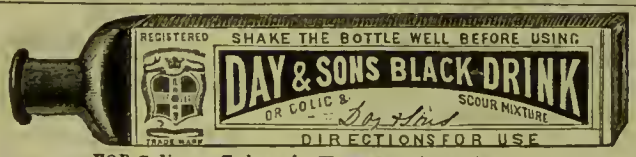
ESTABLISHED NEARLY 50 YEARS.

DAY & SONS'

WORLD-FAMED HORSE AND CATTLE MEDICINES.

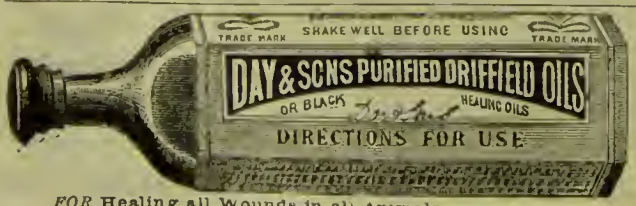
AWARDED OVER 30 PRIZE MEDALS.

THE LARGEST SALE IN THE WORLD.



FOR Colic or Gripes in Horses and Cattle.
FOR Debility and Chills in all Stock.
FOR Scour in Calves and Lambs.
FOR Hoven or Blown Cattle and Sheep.
FOR Shivering Fits in Horses.
FOR Weakness after Lambing or Calving.

PRICE—**10/** PER HALF-DOZEN, OR **19/** PER DOZEN.



FOR Healing all Wounds in all Animals.
FOR Kicks, Stake Wounds, Broken Knees in Horses.
FOR Cracked Heels and Saddle Galls in Horses.
FOR Sore Teats and Swollen Udders in Cows and Ewes.
FOR Dressing and Anointing in Lambing and Calving.
FOR Every Horse-keeper, Farmer, and Shepherd.

PRICE—**2/6** PER BOTTLE.

FOR Fevers, Yellows, Indigestion, and Dulness.
FOR Red Water, Costiveness, and Mawbound.
FOR Disordered System in Cattle.
FOR Bad Cleansing after Calving.
FOR Preventing Milk Fever and Inflammation.
FOR Purifying and Increasing the Milk.

PRICE—**12/** PER DOZEN PACKETS.

FOR Ill Condition, Off Appetite, Disordered System.
FOR Heat-lumps, Itching, and Sourvy Skin.
FOR Hidebound. Bad Water, and Blood Ailments.
FOR Coughs, Colds, Sore Throats, and Fevers in Horses.

IN CANISTERS. PRICE—**3/6, 7/, 14/,** AND **21/.**

THE "ORIGINAL" UNIVERSAL MEDICINE CHESTS, £2 4s. and £5. FOR ALL DISORDERS OF HORSES, CATTLE, CALVES, SHEEP, AND LAMBS.

Only Prepared by the Inventors, DAY & SONS, CREWE, CHESHIRE.

May be obtained of Burgoyne, Burbidges & Co.; Sanger & Sons; Evans, Lescher & Webb; Barclay & Sons, &c., London; Evans, Sons & Co., Liverpool, &c. *Exporters are invited to apply for terms; Liberal Discount offered.*

CARBOLIC POWDER, £4 TON.

1-ton lots and upwards.

CARBOLIC PINK POWDER, 5/-, 7/6, and 10/- per cwt., in bags or casks.

HANDSOME LARGE DECORATED BLACK AND GOLD TIN BOXES,

Holding 1½ lbs. (usual 1/- size), 3/- doz. Ditto, LARGE SIZE (usual 1/6 size), holding about double quantity, 4/6 doz.

PALE CARBOLIC ACID, 99 per cent. (No. 5), and CHLORIDE OF LIME below market prices.

CRUDE CARBOLIC ACID (Brown), 9d., 1/-, and 1/6 Gallon; also in patent stoppered bottles, labelled, ½ pint (1/- size), 4/- dozen.

DARK SANITARY FLUID (to be used with 80 parts of water, making a *milky fluid*), 2/- PER GAL.

10 PER CENT. DISCOUNT OFF ABOVE PRICES FOR CASH WITH ORDER.

All goods delivered free in London or suburbs, or to rail or docks. THE CHEAPEST HOUSE IN THE TRADE.

HAMILTON & CO., HIGH STREET, WANDSWORTH, LONDON, S.W.

FOR ALL CANINE AILMENTS.

SPRATTS PATENT, LIMITED,

DOG MEDICINES.

Pamphlets on Canine Diseases for gratuitous distribution. Show Cards and Handbills Supplied.

Address: SPRATTS PATENT, LIMITED, LONDON, S.E.

OR YOUR WHOLESALE HOUSE.

Used on the Royal Farms at Windsor, Osborne, and Sandringham, and by the principal Stockbreeders everywhere for nearly 60 years.

DAY, SON & HEWITT'S

HORSE, CATTLE, AND SHEEP MEDICINES.

THE CHEMICAL EXTRACT.

For assuaging pain and inflammation in all wounds, saddle galls, strains, bruises, swellings and relaxed tendons in Horses. For paining after calving and lambing, and for swollen udders and sore feet.

2s. 6d. per Bottle; ¼-dozen Box, 7s. 6d.

THE BED DRENCH.

Celebrated for inflammatory disorders, such as fevers, pleurisy, foot-and-mouth complaints, yellows, surfeit, and red-water. Also for difficult calving and lambing. Admirably adapted for cleansing and checking feverish symptoms in Cows and Ewes after a bad time of parturition.

For Sheep, 3s. 6d.; for Cattle, 13s. per dozen Box.

THE GASEOUS FLUID.

Unmatched for colic or gripes and debility in Horses, for colds, chills, shivering fits, flux and diarrhœa in Cattle, Calves, and Sheep. For Ewes weakly after lambing and blown Cattle and Sheep, its effects are marvellous.

20s. per dozen Box.

THE GASEODYNE.

Used as laudanum in uncontrollable spasmodic pains and violent bowel complaints. Invaluable for parturition in Mares, Cows, and Ewes.

3s. 6d. per Bottle; ¼-dozen Box, 10s. 6d.

THE RED PASTE BALLS and RED POWDERS.

For ill-conditioned Horses and Colts; invaluable after hard hunting or driving. For coughs, colds, staring coat, itching, swollen legs and want of strength. The powder given in the feed will produce fine appetite and tone.

7s. 6d. per dozen; 3-dozen Box, 21s.

THE BLACK PHYSIC BALLS.

These Balls are matchless for thoroughly cleansing the system of all impurities, and for assisting in the expulsion of Worms. Their purgative action soon relieves Costiveness of the Bowels, and checks all Feverish Symptoms arising from gross habit.

Price, 8s. per dozen; Box containing 3 dozen, 23s.

THE BRONCHOLINE.

The great and reliable remedy for Hush or Hoose in Cattle, Heifers Calves, and Sheep. Its gaseous odour destroys the worm or parasite in the windpipe, removes the hard cough, and soothes the lungs and other organs

2s. 6d. per Bottle; ¼-dozen Box, 7s. 6d.

THE "KEY TO FARRIERY."

A small work published by us on the general ailments of stock, their treatment and cure.

Large Edition, in Cloth, 2s. 6d.; Small Edition, 1s.

		Price
The Stockbreeder's Medicine Chest.	No. 1 contains a complete assortment of all our preparations for treating diseases of stock generally,	£6 6 0
The Stockbreeder's Medicine Chest.	No. 2 is suitable for ordinary Farm use, and contains a useful selection of the above Medicines ..	2 16 6
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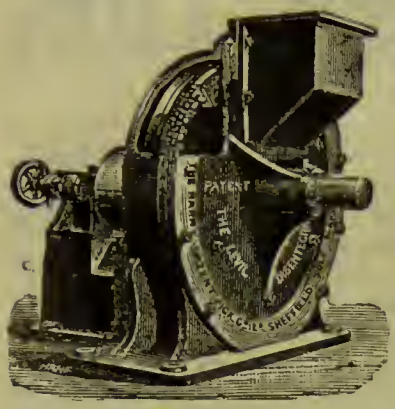
Prepared only by DAY, SON & HEWITT, 22 DORSET STREET, LONDON, W.

LIBERAL DISCOUNT TO FOREIGN BUYERS. LIST AND PARTICULARS OF AGENTS ON APPLICATION.

HAVE YOU SEEN THE "DEVIL" DISINTEGRATOR AND MIXER?



This Machine will Grind to Powder, Granulate, or Shred any Material,

Animal, Vegetable, or Mineral.

CLOGGING ABSOLUTELY IMPOSSIBLE.

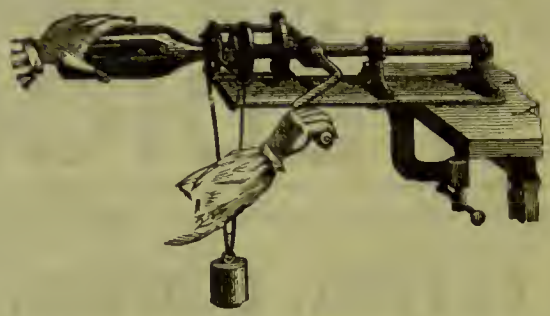
The chief feature of this Grinding Machine is that it combines the centrifugal with the grinding action, and it can be adjusted to grind to any degree of uniform fineness while in motion. No Screens or Grates are required. Will Grind Wet or Dry Material, Clogging being impossible.

Samples of material forwarded to us may be passed through the Machine in the presence of intending purchasers or forwarded by rail. Larger sizes made to order.

Sole Makers, THE HARDY PATENT PICK CO., Ld.,
Engineers and Mining Tool Makers, SHEFFIELD.

NEW CAPSULING MACHINE

The only Machine which leaves no crease or pleat on the Capsule.



Can be fixed to any Counter.
A single pull of the lever is sufficient to fix the Capsule.

Patentee—**C. MELIN, 37 Crutched Friars, LONDON, E.C.**

THE

SELF-OPENING TIN BOX COMPANY

(GRIFFIN'S PATENT),

ALBION TIN WORKS, YORK ROAD, KING'S CROSS, LONDON, N.

Telegraphic Address—"TIN BOX LONDON."

Boxes ready made up, or the Patent Tops only (ready for making up), are supplied.

THE NEW TIN BOXES for all kinds of Hermetically Sealed Preserved Foods, DRUGS and CHEMICALS.

THE NEW TIN BOXES are as cheap as the ordinary Boxes, require no soldering up, and can be opened with a penny piece.

THE NEW TIN BOXES are being adopted by the largest Food-preserving Houses and CHEMISTS, to whom references can be given.

THE NEW TIN BOXES are also perfect for Tea and Coffee Canisters, Biscuit Boxes, Confectionery, Paints, Oils, Varnishes, Soaps, &c.

THE NEW TIN BOXES are described by the *Times, Standard, Chronicle, Illustrated News, Engineer, Grocer, Oil and Colourman*, and Press generally, as the "neatest and most elegant invention ever made."

GREAT REDUCTION IN PRICE OF GLASS BOTTLES, SYPHONS, ETC.

ESTABLISHED TWENTY-FIVE YEARS.

ROUND SHOULDER OR LIME JUICE BOTTLES.
½ 1 2 3 4 6 8 10 oz.
2/9 3/3 4/6 6/ 6/6 7/6 8/6 14/ gross.
12 18 20 oz.
15/ 20/ 22/ gross.
VIALS (Long, Medium, or Short Series).
½ oz., 2/8: 1 oz., 3/; 2 oz., 4/6 gross.
Good quality.
KALI (CONFECTIONER'S) BOTTLES.
4 6 8 10 12 20 oz.
6/ 7/6 9/ 14/ 17/ 24 gross.
GLASS SYRINGES (Best Quality).
½ oz., 14/; ½ oz., 18/; 1 oz., 27/; 2 oz., 49/ gross.
All and every kind of Bottle made, and prices given for any particular pattern.

BEST WHITE FLINT OVAL DISPENSING OR PERFUMERY BOTTLES
2 3 4 6 8 oz.
6/ 7/ 8/6 9/6 10/6 per gross.
BEST WHITE FLATS.
2 3 4 6 8 oz.
6/ 7/ 8/6 9/6 10/6 per gross
PILL BOTTLES (Metal Screw Caps).
½ oz., 9/; 1 oz., 10/; 2 oz., 13/; 3 oz., 16/ gross.
POMADE BOTTLES (Metal Screw Caps).
1 oz., 11/; 2 oz., 14/6; 3 oz., 16/; 4 oz., 21/ gross.
Our Metallic Capsules are superior to anything in the Market.
SYPHONS: Block Tin Mounts, best in the trade, 18/ doz. f.o.b. Antwerp.
SELTZOGENES: 5 pint, 12/ each.
WONDERFUL PRICES.

SCREW FEEDING BOTTLES, Black Fittings complete, 10 gross lots, 30/ per gross.
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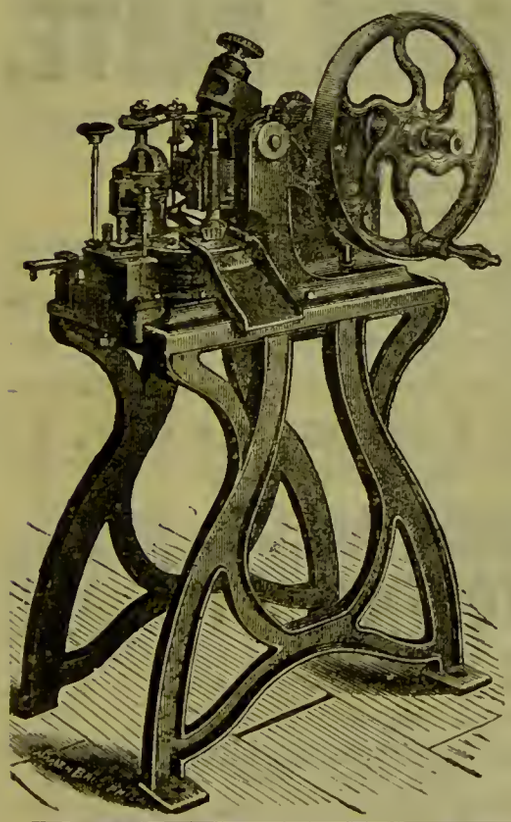
SHOWROOMS AT 82 HATTON GARDEN, LONDON, E.C.

McFERRAN'S
COMPRESSED
TABLET MACHINES,
Of various Sizes and Prices.



No. 4.—For Retail Druggists and Limited Manufacturing Purposes.
FOR FURTHER PARTICULARS ADDRESS—
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Or F. FOSTER, SCARBOROUGH, ENGLAND.

DISPENSING BOTTLES & PHIALS

The following are our greatly Reduced Prices:—

CLEAR BLUE TINTED.

3 and 4 oz.	6/6 per gross.	12 oz.	11/6 per gross
6 and 8 oz.	7/6 „	16 oz.	15/6 „

WHITE MOULDED PHIALS.
LONG OR SQUAT SERIES.

½ oz.	3/0 per gross.	1½ oz.	4/3 per gross
1 oz.	3/6 „	2 oz.	4/9 „

Prompt attention to country orders. Packages 1/ each, allowed for if returned. Sample bottle sent free on application.

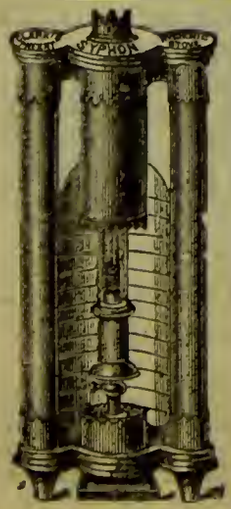
I. ISAACS & CO.
GLASS BOTTLE MANUFACTURERS,
25 Francis St., Tottenham Court Road, London, W.C.
Established upwards of 70 years. *Bankers, London and Westminster.*

HUNT'S BOTTLE CAPS

Pleated Paper, from 8d. per Gross.

LONDON:
25 Great Windmill St., W.

Depot of DIGNE'S ENAZYMES.



TO CHEMISTS AND DRUGGISTS.

AGENTS WANTED FOR THE SALE OF CLARK'S PATENT

"SYPHON"

(REGISTERED TITLE)

HYGIENIC CONDENSING GAS HEATING STOVES.

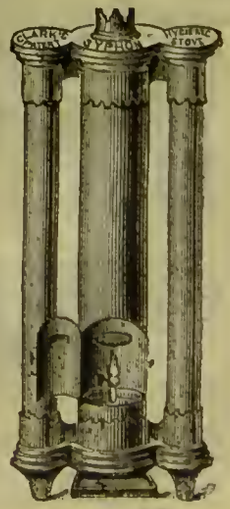
NO FLUE REQUIRED. ARE FREE FROM SMELL OR SMOKE.

All injurious vapours are reduced to harmless liquid inside the Stove, and passed out at foot into a tray provided for that purpose.

FOR USE IN HOSPITALS, SICK CHAMBERS, BEDROOMS, HALLS, CONSERVATORIES, CHURCHES, SCHOOLS, ETC.

Specially suitable for patients suffering from Bronchial affections, as a moist atmosphere is obtainable when required.

FOR TERMS, PARTICULARS, AND PRICES, APPLY TO
S. CLARK & CO., Patentees & Makers, Syphon Works, Park St., Islington, LONDON, N.
Telegraphic Address:—"SYPHON STOVES LONDON."
Wholesale Agents:—Messrs. MAW, SON & THOMPSON, Aldersgate Street, London, E.C.



ORIENTAL AROMATIC SALTS,

FOR BATH AND TOILET PURPOSES.

The ORIENTAL AROMATIC SALTS, when dissolved, render the water very soft, and impart a most agreeable and refreshing perfume that can be diffused with advantage in a room where the air is close and depressing.

The ORIENTAL AROMATIC SALTS strengthen the tissues, perfume and invigorate the body, preserving it from contagious diseases, and cleanse the pores, thus facilitating the cutaneous transpiration so necessary to life.

The ORIENTAL AROMATIC SALTS are unrivalled for beautifying and preserving the Skin, rendering it soft and velvet-like; and for keeping the complexion perfectly bright and clear.

They are indispensable in the Bath as well as in the Bedroom, and should be used by everybody.

Sold in Bottles at 1/6. *Wholesale of the Patentees and Manufacturers—*

S. TRAVADO & CO., 27 Jewry St., E.C., LONDON.

To be had also of Messrs. BREIDENBACH & CO., Perfumers to the Queen, 157b NEW BOND STREET, W

WHITE AND SOUND TEETH.

JEWSBURY & BROWN'S

ORIENTAL TOOTH PASTE.

This old-established and increasingly favourite Dentifrice has been over Sixty Years before the Public. It is warranted to retain its properties and keep in good condition in any climate. The original and only genuine is manufactured solely by

JEWSBURY & BROWN, Chemists, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is annexed. Particular attention should be paid to this guarantee of genuineness, as numerous imitations are offered. Sold universally by Chemists and Perfumers, at 1*s.* 6*d.* and 2*s.* 6*d.*

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address cards and directions for enclosure.

BRECKNELL'S SKIN SOAP

Recommended by the late Sir Erasmus Wilson and other eminent Medical Men, and is THE BEST FOR PRODUCING A CLEAR AND HEALTHY SKIN.

PRIZE MEDAL.

BRECKNELL'S SADDLE SOAP

Used in the Royal Stables, by the Army, and in Hunting Establishments.

THE BEST THING MADE FOR CLEANING SADDLES.

PRIZE MEDAL.

BRECKNELL, TURNER & SONS,

TO THE QUEEN, HAYMARKET, LONDON.

IMMENSE SALE.

SOLD EVERYWHERE.

WOODS' ARECA NUT TOOTH PASTE,

As used and recommended by Madame Marie Roze, the Prima Donna.

PRICE, 6d. and 1s. per Pot.

CAUTION.—SEE "WOODS, PLYMOUTH," ON EACH POT.

BATES' SULPHUR SALT (REGISTERED.) AND FRIZZETTA (REGISTERED.)

Price, 1/9 & 4/6.

RETAIL 1/8.

RETAIL 1/8.

F. W. BATES, Chemist, Brooks's Bar, MANCHESTER.

Telegraphic Address—"FRIZZETTA MANCHESTER."

SUPPLIED BY ALL PATENT MEDICINE HOUSES.

PURE OTTO OF ROSE,

SPECIALITY OF

SHIPKOFF & CO.

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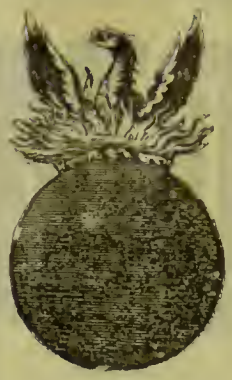

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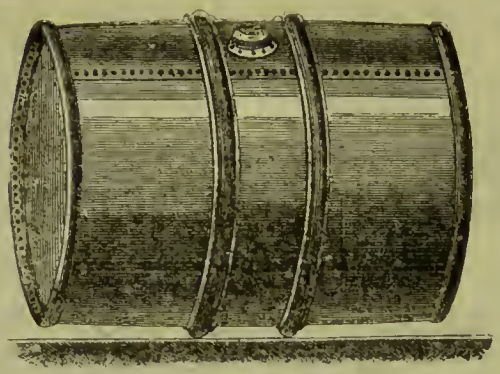

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